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CENTRAL LIBRARY
UNIVERSITY

ASLIB PROCEEDINGS

incorporating Aslib Information

Volume 11 January 1959 Number 1

ASLIB CALENDAR

FEBRUARY

FRIDAY 6th. Scottish Branch Annual General Meeting.

TUESDAY 10th. Advanced course on patents. See paragraph below.

FRIDAY 13th. Fuel and Power Group visit.

MARCH

WEDNESDAY 25th. Midlands Branch Annual General Meeting.

APRIL

MONDAY 6th. Advanced course on classification and indexing commences. See paragraph below.

FRIDAY 10th. Fuel and Power Group visit.

OCTOBER

MONDAY 5th–WEDNESDAY 7th. Annual Conference at the Grand Hotel, Scarborough.

The President

The Queen has appointed Mr F. C. Francis, C.B., M.A., F.S.A., Keeper of the Department of Printed Books, to succeed Sir Thomas Kendrick as Director and Principal Librarian of the British Museum. He will take up his appointment on 1st February 1959. Mr Francis has been President of Aslib since 1957. He has given his valued service to the Editorial Advisory Board of the *Journal of Documentation* for the past ten years, and to the Executive and Finance Committee and the International Relations Committee of which he is still a member. He was elected a Vice-President in 1954.

Advanced Course on Patents

The introductory course on patents and patent law which was held last year presented a general picture of patent practice in Great Britain and other countries. Since such a vast subject cannot be covered adequately in two days, Aslib has now decided to select specific items for detailed treatment, and a one-day course will be held on Tuesday 10th February 1959 at 3 Belgrave

Square. The speakers will be Mr C. H. Greenstreet, B.SC., A.I.C.P.A., and Mr Felix Liebesny, B.SC., A.L.A.

The first lecture of this course will deal with problems of infringement of British patents, methods of searching patent literature to establish or disprove infringement, and some of the legal points relating to infringement. The second lecture will treat patents as a source of information, with special reference to methods of abstracting information from patent specifications and claims. The language problem in patent work will also be discussed. The fee for the course will be 3 guineas. Application forms are obtainable from Aslib, Conferences and Courses Department.

Advanced Course on Classification and Indexing

Because of the success of previous courses on advanced classification and indexing held by Aslib in December 1957 and April 1958, a similar course of eight evening lectures will take place at 3 Belgrave Square from 6.30 to 8 p.m. on Mondays from 6th April to 1st June inclusive, with the exception of Whit Monday, 18th May. The lectures will again be given by Mr J. Mills, F.L.A., Department of Librarianship, North-Western Polytechnic, and will cover modern contributions to classification and indexing and their applications. The lecturer will also mention research work in progress and give guidance for reading between lectures. The fee for the course will be 8 guineas. Application forms are obtainable from Aslib, Conferences and Courses Department.

Midlands Branch

A meeting was held jointly with the Presentation of Technical Information, Midland Group, on 2nd December at the Engineering Centre, Birmingham. Mr Raymond F. Stock, Managing Director, Irwin Technical Ltd, gave an informative paper on technical publications and their place in industry. He described the organization of a company devoted to the authorship, design, and production of a wide range of technical material for industry, and showed filmstrips produced by the company. A lively discussion followed on the relative importance of subject knowledge and writing ability, as well as on a number of production points.

Northern Branch

The inaugural meeting of the Northern Branch Classification Study Group was held on 23rd October 1958 in the Manchester College of Science and Technology. J. L. Ingham, F.L.A., Lecturer in classification at the Manchester School of Librarianship, reviewed recent literature and described some of the methods of information retrieval now being developed. During the discussion that followed much interest was shown in faceted classification.

The newly formed North Eastern Section of the branch held its first meeting on 10th November in the Y.M.C.A. buildings, Newcastle upon Tyne. Twenty members heard Mr William Caldwell, F.L.A., Lecturer-in-Charge, School of Librarianship, Newcastle upon Tyne Municipal College of Commerce, give an informative paper on extra-mural sources of information. The paper was followed by lively discussion which centred on the proposed co-operative information schemes for Tyneside and Tees-side. The section is planning further regular meetings in the area.

Economics Group

The group's *Newsletter,* number 4, Autumn 1958, gives a full account of the visit, last year, of some twenty members to the new headquarters of the Tropical Products Institute, Grays Inn Road. The Institute was formerly known as the Colonial Products Laboratory and was housed in the Imperial Institute building. On removal to new accommodation, the name Tropical Products Institute was adopted in order to cover a wider range of work and include advisory services on the exploitation of natural resources in tropical and sub-tropical territories which are not necessarily colonies. Research work is carried out in some of the Institute's twenty laboratories and the new library accommodates a special collection of works on tropical plant and animal products, Commonwealth agriculture, and various publications of the United States Department of Agriculture. The library has its own binding section. It is open to the public for reference purposes from Mondays to Fridays, between 10 a.m. and 5 p.m.

B. M. Headicar

Members will be sorry to hear of the death, on 5th December 1958, of Mr B. M. Headicar, for twenty-six years Librarian, London School of Economics, and later Director of the Inter-Allied Book Centre. From 1949 to 1956 he was Librarian to the Royal Institute of Public Administration, and continued to give the library his active support until just before his death. Mr Headicar took a keen interest in the work of Aslib for many years. He presented a paper on 'Research work and indexing at the London School of Economics' at the First Aslib Conference in 1924 and gave his valued services as a member of Council from 1927 until 1945. He was eighty-three years old.

National Institute Economic Review

The National Institute of Economic and Social Research publishes this month the first issue of a two-monthly bulletin, the *National Institute Economic Review,* the purpose of which is to supply information on current economic trends and policy. Each issue will contain a general article on recent events at home and abroad, as well as analyses of topical problems, reports of research into current trends and relationships, and a twelve-page appendix of key statistics. The Institute announces that 'the *Review* will be written in intelligible language'. Orders should be addressed: National Institute Economic Review, 2 Dean Trench Street, Smith Square, London, S.W.1. The annual subscription is 40*s.* or $6. Single copies 8*s.* 6*d.* each.

Year Book of International Organizations

The seventh edition, 1958-59, of the *Year Book of International Organizations* has now been received. It gives the aims, structure, activities and membership of international organizations, grouped under the United Nations, the European Community, inter-governmental, and non-governmental organizations. There are indexes in English and French. The *Year Book* is published, in collaboration with the United Nations, by the Union of International Associations, Palais d'Egmont, Brussels, Belgium, and is obtainable in the United Kingdom, price 78*s*., from E. S. Tew, 91 Lyndhurst Gardens, Finchley, London, N.3.

London Union List of Periodicals

The second edition of the *London Union List of Periodicals: holdings of the municipal and county libraries of Greater London* has been published by the Library Association, London and Home Counties Branch. It provides a guide to temporary files of current issues as well as to the permanent files. Entries are clearly set out in two columns in Gill sans and Gill sans bold with headings in Perpetua; the title page also is set in Perpetua and the foreword and introduction in Bembo and Bembo bold. The pagination is hard to find but this is not of importance as the alphabetical arrangement of entries is clearly shown. The list may be ordered from the Branch Publications Officer, Central Library, Banstead Road, Purley, Surrey. Price 65*s*. to members of the Library Association, 80*s*. to non-members, post free.

World List Amendments

The sixth and last list of amendments to the *World List of Scientific Periodicals* was published in *Chemistry and Industry,* 11th October 1958, pages 1307–9. Members who do not receive *Chemistry and Industry* regularly may wish to amend their copies of the *World List* from this issue.

Index of Technical Articles

The Bureau of Technical Information Services Ltd of Iota has suspended publication of the *Index of Technical Articles,* which was announced in the December 1957 issue of *Aslib Proceedings*. This service, which promised to be a useful one for special librarians and information workers, found insufficient support to make it a sound business proposition.

Distribution of Engineers and Scientists

Engineering has recently produced a folder entitled 'Where are the qualified engineers and scientists in British industry?' It comprises a chart showing clearly the distribution of qualified engineers and scientists in British manufacturing industries, building and contracting, and industrial research. Industries are divided into twenty-five groups and a short text gives definitions and official sources of the information tabulated. The folder is obtainable, free of charge, from *Engineering*, 36 Bedford Street, London, W.C.2.

Standards Abstracts

Attention is invited to *Internorm,* an abstracting service on standardization edited by Dr N. A. J. Voorhoeve. It contains abstracts of carefully selected literature on standardization published all over the world, in books, pamphlets, and periodicals. The service was started in July 1957 and has roused considerable interest in the Netherlands and abroad. Further particulars can be obtained from Dr N. A. J. Voorhoeve, 87 Parklaan, Eindhoven, Netherlands.

SUBJECT BIBLIOGRAPHIES AND THEIR COMPILATION*

K. BOURTON

R. B. Pullin & Co. Ltd

33rd Annual Conference, Nottingham, 7th September 1958

THE following succinct appraisal of subject bibliography appeared in an article by Mr R. B. Downs, Director of the Illinois Library and Library School: 'It is a fair statement that subject bibliography has always been, and continues to be, the weakest link in our chain of bibliographical control, and nowhere has a fully satisfactory solution to this dilemma been found'.[1]

This statement refers to bibliography on an international level, but I believe that subject bibliography, on all levels, lacks enthusiastic champions.

Industrial librarians are mainly concerned with 'microcosmic' work, defined by Egan and Shera as 'each bibliography being compiled as a separate tool, fashioned to meet the needs of a limited number of persons with more or less common interests'.[2] This concept may be extended to embrace 'subject-linked bibliographies'. Each bibliography being a separate tool covering a specialized aspect of one major subject, a series of bibliographies linked by their relationship to form a comprehensive coverage of the subject. Let us take the subject of Automation.

In view of the vast amount of literature published on Automation, only by a complete breakdown into its various aspects can a useful bibliographical tool be provided. Each integral aspect of the subject is a specialized field in itself, e.g. computers, machine tool control, process control, etc. Literature surveys of any one of these aspects will produce extensive bibliographies. These will overlap; e.g. references to certain computer applications take a natural place in any bibliography of machine tool control or process control. To encourage the use of information in bibliographical form we must adopt methods which will lead the user by a direct path through the literature. I am not claiming that 'subject-linked bibliographies' would solve all difficulties, but they could help if applied at the right level by the right organization.

One of the major problems facing the bibliographer lies simply in knowing where to draw the retrospective line. When a comprehensive survey of the literature is required it is necessary to ascertain how much of the published material is of real, practical interest. It is obvious that the retrospective line will vary tremendously (*a*) with the subject and (*b*) with the purpose of the work. For instance, it may be required to provide: 1—an all-embracing coverage, 2—information on retrospective and current trends for new research or development, 3—assistance in a specific problem, or 4—information concerned with competitive development, etc.

Mr C. W. J. Wilson has prepared two reports of great value in the assessment of retrospective lines, 'The use of periodicals in the R.A.E. library, 1956–57'[3] and 'Report literature used by aerodynamicists'.[4] His conclusions on the latter indicate 'a very high concentration on papers of American origin and less than ten years old. This should influence Aerodynamics Department Library organization, the design and scope of new information retrieval systems for the Department, and the extent of literature searching'. He also suggests that 'in the compilation of bibliographies or in literature searches, comprehensive examination of papers under ten years old should normally suffice'.

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* Abridged.

The Research Information Committee of the American Institute of Industrial Engineers, U.S.A., provides, each year, a classified list of titles and abstracts of graduate theses in the field of industrial engineering, from colleges and universities throughout the world, and a classified list of titles and research projects in the field of industrial engineering undertaken by colleges, universities, industries and professional societies throughout the world. Eventually the committee hope to publish a complete listing and abstract for *all* industrial engineering research. The work is still in its early stages but eventually it should provide an invaluable source of information as to when work upon any given subject was commenced.

TYPES OF BIBLIOGRAPHIES AND THEIR VALUES

There are three main types of bibliography in 'microcosmic' work. The first is the Author-Title compilation. Although this may be adequate as an appendix to a technical article it is also likely to antagonize the user, for article titles can be utterly ambiguous. You may argue that the bibliographer should be sufficiently familiar with the subject to include only references of importance and direct relevance, but, bearing in mind that technologists are usually unwilling to provide a detailed specification of their requirements, there would be very few of us adequately versed in telepathic art to produce such a work.

At the other end of the scale we have the bibliography with critical abstracts. Not the least of the compilation problems presented by this type of work is that the compiler must be as highly qualified as the user—a situation which suggests that the user may as well do the work himself. I believe that the greatest value of this highly specialized work lies in the expansion of references of interest from the Annotated Bibliography.

The annotated bibliography can be prepared by any librarian with a reasonable knowledge of the subject concerned. A specialist is required only to advise on the extent of coverage, classification, or grouping of the material, and to edit the information collated. This specialist advice is absolutely vital. Discussion should take place before the bibliographer makes even a preliminary survey of the literature and may well be extended after the survey and during compilation of the work.

This brings me to the question of staff. Assuming that librarians compiling bibliographies will be qualified either by technical knowledge or experience, it is important that one person only should work upon any specific project. This means that preparation will take longer, but the eventual compilation will be of far greater value.

The primary object of a bibliography is to list all references available of material written on or around a certain subject. But this is only part of its value, for a man entering into a new field of development is not only interested in what he must read, but is anxious to establish the trend of development, possibly to assess the potentialities of equipment he is about to develop. By presenting him with an intelligently classified bibliography, with each class arranged chronologically, *not* in author sequence, the compiler will have achieved his aim. This can only be the work of one person, plus specialist. The exception lies with work for the current year which appears in foreign language journals. This should be handled by those who have a thorough knowledge of the languages used and a reasonable knowledge of the subject. It should never be allocated until all other material is collated, thereby enabling staff to prepare themselves by a close study of subject and trends.

Earlier this year I prepared a bibliography of gauge control of strip rolling mills. The inquirer requested a twenty-five-year survey of literature and patents. Compilation went well until the patents were reached, when I observed an apparent discrepancy between American and British specifications. British patents placed a strong emphasis on the actual control devices, whereas the American patents had a definite bias to the factors affecting gauge control: tension, speed of rolling, etc. The clients were not surprised at the patent specification differences, for the American hot-rolling system varies from the British, but they were surprised that this should have been recorded by a bibliographer. The recording and presentation of such facts gains the confidence of those for whom the work is prepared and can more easily be done by one person than by several.

SURVEY AND PLANNING

The initial survey is imperative if an assessment of time is required. It is advisable to use only sources of major importance, such as the *Engineering Index*, at this stage, and to follow this up with a survey from the leading abstract journal in the field. These two items can be reversed, but an annual volume is an easier reference tool than a journal, and tends to present a broader picture. To obtain a fair impression it is necessary to work retrospectively over several years, for the expansion or lessening of work in the subject will then be apparent in the material indexed. Obviously, different techniques are applicable to material which is security classified.

Having ascertained how long the work will take, the next step is to list in order of international coverage all the sources which must be checked for a fully comprehensive bibliography. Librarians should be familiar with all guides to the literature of subjects with which they are concerned. Records, and if possible acquisitions, should be made of all bibliographies of abstracting services.[5]

If it is necessary to abbreviate periodical titles, it is important in the initial survey to record the names of periodicals which will most probably yield references in order to standardize abbreviations at the outset and eliminate some of the tedium of final editing. I am against abbreviations, for if used they must be indexed, and a series of unnecessary indexes is tedious for the user. Rules should be made for the standardization of terminology throughout, consideration being given to the purpose for which a bibliography is being prepared.

The more important points are listed below:

1. Titles of foreign articles. Should these appear in their language of origin

with a translation in brackets alongside, or should only a translation be included? If several sources are to be utilized in a search there will be a deviation from one or other of these forms.

2. The use of Latin terms such as *ibidem*, *et al.*, *inter alia*, etc.
3. The use of p. or pp. to indicate pages, and whether or not to use full numerical sequence for a run of pages.
4. Inversion of author's initials; inclusion of titles, if any.
5. Other details, i.e. diagrs., graphs, photos, x refs., tables, etc. Bibliography implies a fairly extensive reading list, but it quite frequently covers only three or four articles, hence I always quote the number of references given.
6. Punctuation.
7. Cross references, multiple entry, or subject index. This is probably the most important factor and should be determined by the user for whom the bibliography is prepared.

PREPARATION BY TAPE RECORDER

A basic difficulty of bibliographical work lies in the time spent in writing out references. Recording references on tape and transcription by a good typist should make enormous savings on a bibliographer's time and it may be of interest to outline the problems incurred when I experimented with this method.

It was my intention to work only through retrospective, indexed material which could be handled in bulk, not current material. It was possible to record something like forty references in two hours, a task which would have taken double that time in longhand, but to achieve maximum efficiency it was essential that the typing of a card from the recording should be the only stage prior to final compilation. This was far from simple, for the only way of achieving first-class results in typing was for the bibliographer to introduce each part of the reference before quoting, i.e. title, author, periodical, abstract. These introductions were not typed but enabled the typist to find her way in what would otherwise have been a maze of detail. The limitations and dangers of recording foreign references, unusual names, etc., are obvious. I have not had time to give this method a fair trial, but to those who may be able to experiment I give one further word of warning—accuracy in transcription depends greatly on the bibliographer's enunciation, foreign accents definitely limit the reliability factor.

REFERENCES

1. R. B. DOWNS. Problems of bibliographical control. *Library Trends*, vol. 3, no. 2, April 1945, pp. 498–508.
2. M. E. EGAN *and* J. H. SHERA. Foundations of a theory of bibliography. *Library Quarterly*, vol. 22, no. 2, April 1952, pp. 125–37.
3. C. W. J. WILSON. Use of periodicals in the Royal Aircraft Establishment Library, 1956–57. R.A.E. Library Memo no. 29. August 1957.
4. C. W. J. WILSON. Report literature used by aerodynamicists. R.A.E. Library Memo. no. 31. February 1958, *and Aslib Proceedings*, vol. 10, no. 8, August 1958, pp. 194–200.
5. SPECIAL LIBRARIES ASSOCIATION. Science-Technology Division. *Engineering Section*. Bibliography of engineering abstracting services; ed. by Miriam M. Landuyt. New York, the Association, 1955. 37 pp. mimeographed.

SOME PROBLEMS IN THE PRODUCTION OF A MULTILINGUAL JOURNAL*

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33rd Annual Conference, Nottingham, 7th September 1958

INTRODUCTION

WHETHER it is correct or not to describe it as multilingual, plurilingual or polyglot, the journal with which I am particularly concerned falls into the category which produces complete separate editions in two or more languages. The number of such journals is by no means insignificant, the majority of them being the house journals of industrial firms, produced essentially for prestige purposes, although often containing a high proportion of original and interesting technical material. Switzerland is the country which has long been foremost in their production, while other smaller European nations are also energetic in issuing English editions of journals in addition to those in their own languages. There would seem to be, however, no counterpart among such multilingual journals to *Endeavour*, the scientific quarterly review produced in five editions, English, French, German, Spanish, and Italian, by Imperial Chemical Industries Limited, contributors to *Endeavour* being drawn impartially from all fields of scientific activity—the academic world, scientific research institutions, and industry. Although sponsored by I.C.I., no discrimination whatever is made in favour of contributions by scientists of the company's own staff. To help maintain the international character of the journal, articles from abroad are also frequently included. *Endeavour* was first published in January 1942, at a period of the war when the fortunes of Britain were at a low ebb. Its purpose then was to give scientists at home, and particularly overseas, a balanced summary of the continuing progress of science. A secondary but no less important aim was to counter, by encouraging scientific workers to read outside their own subject, the trend towards over-specialization. Notwithstanding the difficulties due to material shortages and security restrictions, *Endeavour* was safely launched. It has continued to flourish ever since. It is distributed free of charge to individual scientists, scientific bodies, laboratories, and libraries throughout the world. The total circulation of all editions is about 35,000 copies.

Although in *Endeavour* the emphasis is placed on pure science, articles of a more technological character are not rigorously excluded, in the interests of presenting a well-balanced picture of development. The greater part of the articles may be said to be of the survey or 'integrating' type, although from time to time original matter finds its way into the pages of *Endeavour*.

To illustrate the breadth and balance of the subject coverage, analysis of the contents during 1956–58 shows that 32 per cent of the articles dealt with physical subjects, including geophysics and astronomy, 20 per cent with chemistry and biochemistry, 32 per cent with biological sciences, 6 per cent with technology, and 10 per cent with the history of science. Articles for *Endeavour* are obtained principally by direct commission from authors, while the Editor is guided in his selection of subjects and authors by an advisory panel of scientists, each eminent in his own sphere and chosen so that the panel as a whole should be broadly representative of the main branches of science.

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* Abridged.

It may well be questioned whether the provision of so many foreign-language editions is not being over-generous, perhaps suggesting a little of spoon-feeding, for surely the well-trained and enthusiastic young scientist, say in Italy or Mexico, should of necessity be able to read scientific English, or at least French, with reasonable fluency. The simple reply to this is that although he may be able to do so in his own special subject, if for example he is a biologist, he would not be much inclined to devote precious time to plodding through an article on thermonuclear fusion, however topical and interesting it may be, if written in a foreign language.

Endeavour was first produced in three foreign-language editions, French, German, and Spanish. They began simultaneously with the first English number in 1942, while the Italian edition was started six years later, to further co-operation with Italian scientists, which had been interrupted by the war.

The French edition has, after the English, the largest circulation, the majority of copies being distributed in Metropolitan France, the remainder to French overseas territories, Belgium, Canada, Switzerland, Turkey, and Roumania. Although Spanish is not a major language of scientists, the Spanish edition of *Endeavour* is an important one; about two-thirds of the copies being sent to South and Central America and the rest to Spain. The German edition is a rather small one, four-fifths of the copies printed being sent to Germany, the remainder to Austria and Switzerland. The Italian edition is distributed almost entirely in Italy, where it is very well received as is shown by the steady demand from further would-be readers.

PRODUCTION PROBLEMS

The foreign editions are, from the point of view of pagination and make-up, exact replicas of the English, bound in the same blue cover and bearing the same title, 'Endeavour', after the vessel in which Captain Cook made his voyages of exploration. A carefully planned printing schedule staggers the various production stages for the five editions over the four quarters of the year, so that we may find that the last foreign edition of any given issue is still in the press when the page proofs of the English edition of the next issue have already been read by the editors.

From the outset the foreign editions have, with few exceptions, been translated by scientifically or technically qualified persons possessing the foreign language in question as a mother-tongue. *Endeavour* employs at present for each language a panel of some six to eight translators capable of translating, from English, material in one of the main branches of pure science; physics, chemistry, biology, botany, biochemistry, and so on. All work on a part-time basis. For practical and administrative reasons it has been felt inadvisable to increase the number of regular translators much above this figure, for although ideally it would be preferable to have a finer breakdown by subjects, to find immediately available four specialists in four different languages for an article on, say, adhesives or the metallurgy of sword blades would scarcely be feasible, since the journal publishes in all only about twenty-five to thirty articles annually and such specialists would be called upon so rarely that they would lose interest in collaborating. Moreover, with a small panel of translators it is much easier to maintain the close collaboration and personal relations between them and the editorial staff so essential for the smooth running of the publication.

About five years ago an additional stage was introduced into the editorial procedure by the appointment, in a supervisory capacity for each edition, of one of the senior and most experienced translators, whom we for administrative convenience describe as a 'sub-editor'. Besides continuing to translate in his own field, his duty is to supervise the work of the other translators in his language, irrespective of subject, to ensure primarily that the translator has correctly interpreted the English text and to polish where necessary the literary style. This arrangement has proved its value; the quality and accuracy of the foreign edition has been noticeably improved and the task of the foreign editorial staff has been considerably lightened. The ultimate responsibility, of course, rests with the editor. Immediately a translated copy is received from a translator it is sent for revision to the sub-editor, who returns it within two to three weeks. It is then revised once more by the foreign editor, who compares it carefully with the English text, and any major divergences or omissions from the latter then detected are referred back to the sub-editor or, if need be, to the original translator. In the office only minor editorial corrections are attempted in foreign languages apart from the more obvious changes of detail, such as conversion of British to metric units, bibliographical adjustments and other routine sub-editing.

Once passed for press the manuscript is fairly reliable, but where a highly specialized article is published, involving problems of terminology, with which only an expert in a narrower field could be expected to be familiar, e.g. in the instances quoted earlier, we have tried with some success to use the services of a 'referee'. An expert having the foreign language as his mother-tongue has been invited to vet the translation, solely from the point of view of terminology and to suggest improvements where necessary, but not to appraise the article as a whole. Thus with this system of editorial checking and the additional safeguard, where thought necessary, of a referee, it is hoped that the translated manuscript when sent off to press is as near perfect as it could be. As a result of their sixteen years' experience with setting foreign copy, the printers have now reached a very high standard, compositors possessing no knowledge of the languages having acquired a visual familiarity with the form of words so that mistakes even at the galley stage are remarkably few.

WORK OF TRANSLATION

Roughly half our translators are resident in Britain, the rest in the countries of the respective foreign languages. An advantage of the translator's living here is, besides the obvious one of ease of communication, his immediate contact with current English thought and expression. This is important, for English is a language which is evolving probably at a greater rate than any of the other four languages and evidence of such evolution is not infrequently observed even in purely scientific contexts; it should, however, be pointed out that when editing the English texts, the fact that this has to be quadruply translated is constantly borne in mind, so that unusual idioms, highly specialized jargon, and observations conveying meaning only to home English readers are as far as possible eliminated from the author's original copy—moreover, the English edition is received by several thousand readers throughout the world whose mother-tongue is not English. Against this there lies the danger, more evident with German than the three Romance languages, that the translator's native tongue, after some years of residence in Britain, becomes unconsciously corrupted by English, with the result that he may sometimes be led to write quite plausibly sounding but really bogus German words on the English model, which, although usually comprehensible to the German reader from the context of the sentence, will at first puzzle him and emphasize the fact that he is reading a translation. Constant vigilance is needed when editing the translation to detect such pitfalls. In the case of translation from English into German there is, however, a point of view which cannot be completely dismissed, namely that the act of translation from English produces a type of German which is less involved, less cumbersome and more easily assimilated than much technical German as nowadays written by many German scientists.

Anglicisms and English turns of phrase no doubt creep occasionally into the other language editions, but on the whole they are less obtrusive. If I may risk a generalization based solely on personal observation of all foreign editions, it would seem that the translatability of scientific English into the four foreign languages, measured on the crude basis of the amount of sentence recasting or thought readjustment required in the process of translation, is in the descending order of Italian, Spanish, French, German.

It is very beneficial if the translators are able to visit their native countries at regular intervals to recharge, as it were, their linguistic batteries. The translator working abroad is less likely to fall into the above-mentioned traps, but he is sometimes handicapped by a lack of English-speaking colleagues to whom he can turn in case of difficulties. Time lost in communicating with continental translators has not so far proved a serious problem.

Translators are required to produce translations which read fluently in the foreign language, consistent with a faithful rendering of the English text. Too slavish adherence to the English usually results in a longer text and the necessity of awkward cuts, although the degree of literalness which can be tolerated depends to a considerable extent on the subject matter itself; thus editorials, historical articles and book reviews provide the translator with much more scope for the exercise of his literary gifts than would one on, say, metabolic processes which would follow more or less word for word the English original.

Although for certain branches of science a number of reliable up-to-date dictionaries have been published in recent years, with such a wide coverage of science and with no foreknowledge of subjects of articles some of our translators could not be expected to derive more than a groundwork of terms from dictionaries. Translators are therefore recommended to refer to original articles or textbooks where available on the given subject in their own language.

AN EXPERIMENT IN MAKING AN INDUSTRY INFORMATION-CONSCIOUS*

VERNON D. FREEDLAND, A.T.I.

British Hat and Allied Feltmakers Research Association

33rd Annual Conference, Nottingham, 7th September 1958

WHILE larger firms have set up information departments and libraries, or have appointed information officers assigned to the work of collecting and disseminating information within the concern, the great majority of smaller firms either do not appreciate the value of internally organized supplies of information or feel that they do not possess the resources for taking action. This state of affairs has been underlined in the reports of a number of investigations and surveys made in recent years.

Among conclusions resulting from an inquiry among the manufacturing industries of the North East, Curtis[1] found that while most of the firms investigated took such periodicals as dealt with their specific interests and bought those books which contained information essential for their operations, they were not so organized in many cases as to obtain the maximum benefit from this literature. Except for the larger firms, it was found that it was not usual for specific responsibility to be assigned to anyone for keeping in touch with outside technical developments, for dealing with internal problems or for bringing new ideas forward.

Ball[2] has stated that one great problem in promoting the flow of technical information is the lack of arrangements within the firm for dealing with information. He went on to assert that very few firms had effective library or information services, and that this was largely due to the size factor.

In a statement on the flow of information in the iron and steel industry, Slade[3] maintained that very few firms had a formal organization for the dissemination of technical information. She contended that the big firms could probably get on better without internal information services than could medium-sized firms because large firms had scientific staffs who had their own methods of keeping informed. Her general impression was that incoming information did not flow but that it stopped at the person it reached first.

In a report on the same topic, Pearl and Slade[4] stated that all their information supported the conclusion that managers needed more help, both in sorting incoming technical information so that they could use their limited reading time to better advantage, and in finding a specific piece of technical information when they needed it. These writers found that while interest in the idea of setting up libraries and information departments was certainly growing, there was a great deal of fear of the expense. In this latter regard, they noted that it would be uneconomic in a very small firm to have a full-time librarian or information officer, but they contended that even in the smallest firm it was no more expensive to make one person responsible for looking first at incoming technical information and distributing it as he judged best, rather than let it be randomly distributed.

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* Abridged.

Curtis[1] noted that, in general, facilities were lacking for obtaining information concerning advances in other technical fields. A test of the adequacy of firms' arrangements for distributing unsolicited technical literature showed that in 31 per cent of the cases they failed to reach the person who could have decided whether or not they were of interest to the firm.

The Aslib Textile Group had long been conscious of the state of affairs reported in the foregoing quotations and some three or four years ago decided to attack the problem from within the limited field of operations of one industry. The advantages of working on a narrow front are considerable. A discussion of the benefits of information in the general sense makes no strong impact at any point. But if information be discussed as applying to textiles, or engineering, or any other single subject, a strong interest is instantly aroused in the particular industry concerned. In addition, the specialist trade and technical press servicing the industry, which would most probably ignore or give but scant space to information in the broadest sense, will be very attentive if their own industry or field of interest be particularly involved.

The Group realized that any attack would have to be mounted in two waves. First of all, the firms in industry would have to be awakened to the significance of information and the need to organize themselves to secure its flow within the firm. Secondly, the way had to be shown how firms, particularly the smaller ones, could do something about the matter within the ambit of their own organization.

It was decided that the best way of achieving the first objective would be by way of a conference which would attract attention at an appropriate level. Such a conference would also induce publicity, both before and after the event, in organs read by the members of the industry, so that the theme of information would be maintained over an appreciable period of time.

It was naturally realized that any approach to the industry by the Group alone might not gain very much attention. At that time, it was known only to those who were already concerned with information work, whereas the problem was to attract the attention of those who were not. The solution was to obtain the interested support of some important organization serving the industry and whose influence would be decisive. In this instance, the Textile Institute was the obvious body to approach, since it exists to serve the technological needs and advancement of the industry. As a publishing body, it already had the cause of the dissemination of information very much at heart, while its own abstracts service, which has been part of the journal for nearly half a century, is a model of this type of work.

The intention of the conference was not to provide a meeting ground for those already doing information work but was to draw those whose influence might be directed towards establishing some type of information activity within their own concerns. The Institute readily fell in with the Group's plans, and its subsequent activities played a major part in ensuring the eventual success of the conference, which was staged under the title 'Textile information—uses and needs'.

As a function, the conference scored an undoubted success, with applications having to be refused when the lecture hall at the Institute reached its capacity. With an eminent opener and leading figures in the industry as chairmen of sessions, the weight and influence of the conference was established. The Group succeeded in its aim of attracting a large and quite distinguished representation from the industry, including heads of firms, directors, directors of research from both firms and research associations, managers, senior executives, and leading representatives of trade associations, employers' federations, etc. The interest taken by the various employer- and trade-federations was particularly stimulating, since their influence can be quite considerable in helping to develop the theme within their own organizations. The textile press likewise gave excellent coverage to the conference, both by way of advance notices and by reports and photographs after the event.

Having in this way put over to the members of the industry the need to organize their own supply of information and given some idea of the wealth of information available and the sources from which it could be obtained, and having dealt with some of the problems that arise in conveying the information to those able to make use of it, it became necessary to face the second problem—that of showing firms how they could do something to promote the flow of information within their own concerns. It was realized that the main difficulty was that which presented itself to the smaller firm unable to justify anything so ambitious as an information department, full-time information officer or formal library, and it was considered that the ideal solution would be to offer instruction in information techniques to individuals in firms who could act as *ad hoc* information officers on an enlightened part-time basis, in conjunction with their normal duties as executive, technologist, etc. These individuals could then serve as the natural focus for information, both in its collection and dissemination to their colleagues.

It was concluded that the most satisfactory way of affording this training would be by means of a short, concentrated course lasting two or three days. The instruction which could be given in certain aspects of information work would then result in equipping suitable members of the staffs of firms for the more effective performance of their suggested functions.

Here again, the co-operation of other bodies was enlisted. The Library School at the Manchester College of Science and Technology agreed to present the course in association with the Group, while the Textile Institute also showed its continued interest by nominating a member of their Meetings and Conference Committee to help in devising the most satisfactory shape of the project.

In order to enable students to come from the widest possible geographical area the course was made residential, and as a result a third of the students came from outside Lancashire—from places as far apart as Glasgow on the one hand and London on the other.

While members of library and information staffs availed themselves of the opportunity to attend a course devoted to Textile Information Work, the response from other sides of the industry was gratifying and interesting. Among those who attended were a sales estimator, the head of a testing department, a company director, a works director, a technical adviser's assistant, a cost accountant, a textile development engineer, an assistant statistician, a chief chemist, an assistant works manager, a textile technologist, and an economist.

The experiment as a whole has undoubtedly been successful as far as it has gone. It has been shown that it is possible to make very considerable progress in inculcating the notion of information not by attacking, on the broad, overall front of industry as a whole, but by directing attention to one industry at a time. There is undoubtedly much room for similar work to be done, and Aslib subject groups are very suitable bodies, *inter alia*, to act as the initiating impulses. It might be asked, as the Textile Group itself asked—'Why should we go to all this trouble for those who cannot or will not help themselves?' After all, we band into Groups of this kind with a view to helping each other, not outsiders. On the other hand, as specialists in our fields, we do owe a duty towards assisting the advance of our country's welfare, which is so closely bound up with its industry and commerce. Who is better fitted to point the way to others than those of us who know the road?

REFERENCES

1. W. E. CURTIS. Technical and scientific information in the manufacturing industries of the North-East. Newcastle: The North-East Industrial and Development Association, 1957.
2. D. BALL. Report of a symposium on research on the flow of technical information. D.S.I.R., 1956.
3. I. M. SLADE. ibid.
4. M. L. PEARL *and* I. M. SLADE. The flow of technical information in the iron and steel industry. Restricted report. London. British Iron and Steel Research Association, 1958.

CO-ORDINATION OF DOCUMENTATION: THE PROBLEM MET IN WRITING A HISTORY OF AN INDUSTRY

L. JOHN MAYES, F.L.A.

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33rd Annual Conference, Nottingham, 7th September 1958

THE Furniture Group is Aslib's newest group and this is its first contribution to a conference. It is a group of libraries, national and local, public and private, having in common their interest in making available to all comers as much information as possible on all aspects of their subject, furniture. The Group is too young to be able to point to much firm achievement yet but it hopes to secure its aims by encouraging each co-operating library to develop its own resources to the full and then, possibly by means of a union catalogue, to make those resources easily usable by all interested people. The Group decided that its introduction could best be effected by a paper which would show the need for its efforts, leaving the description of its work to a future conference.

There is no single book and but few articles which give in any detail the history of the men who actually made the furniture, the tools they used and their working conditions and especially the change from the hand crafts to mechanization. I receive many inquiries on this subject and so I decided to make a detailed study of it and, knowing the lack of printed material, I concentrated on original research with the intention of committing the results to print for the benefit of students generally and, in particular, of the individual who will one day produce the comprehensive history of the whole furniture trade.

The sources at my disposal seemed to fall into three main groups: solid history in the form of actual furniture, tools and equipment; books, MSS. and photographs; and, lastly, personal narratives. The first group I had readily to hand, the third would be a matter of time, tact and perseverance, but the second promised real difficulties since, while convinced that much material existed, I knew that it would be widely scattered. The advent of the Furniture Group helped greatly by providing the location of useful material, often in libraries from which it could be borrowed or where it could be used at reasonable times, information which most usefully supplemented the service given by the British Museum and similar institutions whose services, excellent as far as they go, are of limited value to the student who lives away from their immediate location due to the total, and quite proper, prohibition of all lending facilities and the very harsh and quite improper restrictions imposed on their use for reference purposes by the totally inadequate hours of opening.

The only information I had to start with came from one or two books which devoted a few lines to chairmaking, and even there each author seemed to have taken his 'facts' from the one before him and the earliest seemed to be based mainly on hearsay, so that the task resolved itself into a long search through old parish account books, marriage and other registers, rating lists, burgess rolls and any similar documents which listed occupations as well as names. This search produced no clue as to the originator of the industry and no real evidence of the extent to which it was carried on and its importance in relation to the general life of the town, but work in the MSS. room at the British Museum produced a valuable lead. This was a return ordered by the High Sheriff of Buckinghamshire who, in 1798, faced with the possibility that he might be called on at short notice to organize a citizens' army to meet the growing threat of a French invasion, instructed all the parish and borough constables to make a return of all the men between the ages of 15 and 60 in their areas and to include occupations. Naturally servants and labourers were the two largest groups, but by far the largest body of craftsmen was that of the chairmakers—a firm indication of the extent of the local industry, well established years before the traditional date for its beginning, and an extensive list of known chairmakers to be checked and followed both in local records and in national ones such as the register of wills in Somerset House.

Within my town the available records were scattered but once found were readily usable, while those in national collections were concentrated and well documented but inconvenient in use. Midway stood the County Record Offices, handicapped by lack of funds and shortage of staff but desperately keen and most helpful even though inevitable arrears of indexing meant that the most valuable finds from this source, apprenticeship indentures and the like, were forthcoming more as a result of individual memory rather than system.

Passing from the beginnings the next step was the development of the industry, and here the British Museum's collection of local and national directories was most useful and the Reading Room at Colindale produced local and national newspapers from which the economic background of the period could be traced. For over a century one local paper has been published continuously and the proprietors readily gave permission to use their files but, alas, past users had been careless or wilfully destructive and until recently storage had been under poor conditions which made this source less useful than had been hoped. For comfort and cleanliness as well as completeness Colindale was used when possible but again the 5 p.m. closing was a great trial. Moreover, lacking a knowledge of shorthand, longhand notetaking was my sole resort, whereas in the office of my local newspaper I was able to use a small tape-recorder with great success, reading to it in the merest whisper all the extracts I needed and transcribing at home at leisure. Perhaps room may be found for this practice in the national libraries at some future date. Personal inquiries at local firms produced no single account book of the period but did produce a treasure in the form of an autobiography, privately printed and almost unknown. In it the author, a celebrated early local chairmaster, set down his memories of working for other manufacturers and the establishment and development of his own business with emphasis on the methods of distribution which had proved very hard to trace.

By the time my inquiries had reached the 1870s new sources became available, photographs, account books, pattern and price books and, most important, personal narratives. The photographs were very useful and their collection and recording in local and later in union catalogues can be commended to students of almost all industries, especially in dealing with the difficult period when hand craft was giving way to machines. The collecting of pattern and price books can be very revealing not only as to the products of individual firms but also as to the methods of small firms in the matter of design, for it was found that many of these pattern books were identical, the work of general printers from the originals of hack designers, the only individual touch being the manufacturing firm's name embossed on the cover.

In an industry so sparsely provided with written records personal narratives play a special part for though, like the newspapers, the facts derived from them may at times be suspect they do bring all kinds of information to the notice of the interviewer. Until recently this was a difficult source to use, especially when dealing with the older craftsmen where it can be of the greatest value and also a matter of urgency as the craft system slowly dies. Few of these men have the ability to set down their memories in writing and when they can be persuaded to do so often leave out much material, important to the student but too commonplace to them to be worth mention but, with practice, an interviewer can learn the art of persuading his subjects to ignore the presence of a microphone and to speak freely and continuously while the tape recorder makes its permanent record. Recorded tapes are one of the newest forms of documentation and much research lies ahead to determine just how permanent they really are. My own intention is to re-record the cream of the material on to long-playing gramophone records and as far as possible to transcribe, edit and index all my tapes. The tapes themselves will be retained partly because it is so easy to make copies of all or part of any recording for the use of other people and partly because the added interest of the craftsman's own voice makes them well worth retaining in their own right.

As this report has been condensed from a much longer paper, so my final printed record will be condensed from all the information I have gathered. Often enough, however, it is just that material which space has caused to be left out which can prove valuable to later workers in the same field and so, in due course, everything, books, notes, tapes, photographs, will be themselves fully indexed and preserved so that my individual library, through the medium of the Furniture Group, may be able to back the printed word with all these other forms of documentation.

CHEMISTRY—THE CRUX OF THE INFORMATION PROBLEM*

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Tate & Lyle Research Laboratories

33rd Annual Conference, Nottingham, 7th September 1958

THE information problem may be regarded as a disease of civilization; from one aspect, there is far more information than one can assimilate, and, from another aspect, there is the inability to extract the essential ingredients from the mass of unwanted material. The problem is, however, not a physiological, but a sociological disorder.

As Julian Huxley wrote in his book *The uniqueness of man*, a unique characteristic of man is his capacity for conceptual thought, of which an important consequence has been the development of a cumulative tradition. The transmission of a tradition, at first slowly by means of speech, was hastened by the invention of writing and eventually by printing. The spread of knowledge then made possible, together with the rediscovery of old knowledge at a time when political patterns, especially the power of the Church, were breaking down, hastened the renaissance which heralded our present civilization, and stimulated an ever greater search for knowledge. It is now recognized by sociologists that the rate of technical change has been so much greater than the rate of social change that the consequent unrest, revolution and war are still with us today. We cannot, and would not wish to retard the growth of knowledge, which, though menacing when misused, has unlimited potentialities for the prosperity of mankind. There is, however, a very real danger that new knowledge is being produced faster than it can be collected and assimilated or disseminated in useful form to those who can best use it and extract from it the parts required. This results in wasteful duplication of effort, in the breakdown of the communication of ideas, and ultimately in the stultification of the development of a cumulative tradition. The printed word has no value when it is not read, or when the labour of extracting information is greater than that of obtaining the result by direct experimentation. This was already realized at the Royal Society Scientific Information Conference in 1948, and the dangers have been even clearer to the sponsors of the International Conference on Scientific Information to be held in Washington in November 1958.

The information problem is most acute in the field of science, where adequate access to the literature is essential for the research worker, and where the pace of research and technical advance is greatest. The most notable features of scientific material are the complexity of the bibliographical material and the complexity of the subjects. The complexity of the literature, from books to periodical articles and now reports of all kinds, is well known. Of all the sciences, chemistry produces the largest amount of literature, both in the pure and applied fields; if one includes the hybrid chemical sciences, such as biochemistry, geochemistry, chemical engineering, etc., there is scarcely any area which chemistry does not pervade. Efforts in organizing knowledge should thus be concentrated upon chemistry first. In the provision of abstracts, this has already been the case, as exemplified by *Chemical Abstracts*. It is a pity that some other large abstracts journals have not provided subject indexes. These colossi of abstracting are, however, becoming unwieldy in use and may perhaps one day collapse under their own weight. There is much to be said for the production, instead, of a large number of small special-subject abstracts journals, each including the necessary borderline material to its own field; the necessary duplication would not entail more effort if material was drawn from a few common pools of abstracting work. Readers in a given field could obtain all their needs with much less effort. Abstracts are, however, only a palliative, and dangerous if used by researchers without recourse to the original papers, or if assumed to provide the whole of the literature; it is known that much material is not abstracted—how much of value lies buried for ever? A much greater effort in storage and retrieval of information is required, and the chemical field has first claim on such efforts. Much money is being spent in America on these problems; a comparable effort—not necessarily on similar lines—should be made by British industry.

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* Abridged.

The complexities of the literature may perhaps be overcome by goodwill and rationalization of publication, better means of recording the literature, and pooled abstracting. The problems of complexity of subject are of a different order. Attempted solutions, in the form of classifications and mechanical sorting, have so far been ill-founded elaborations, expensive obsessions with a single idea. Newer methods of classification, especially facet-analysis, have shown promise in small special-subject fields, and some mechanical sorting methods, also within limited fields, have given useful results. Neither has been adequate alone, and possibly a combination may be advantageous. The problems of general classification are now seen to be very different from those of a special-subject classification, and still remain to be explored.

The problems need to be studied by scientific method. In chemistry we have at least passed beyond the initial stages of identification and taxonomy, or mere labelling and classifying into more or less recognizable groups, a task barely started in sociology. The next stage is the construction of adequate theories of the multiplicity of interactions between the labelled units. Physics represents a stage of still more generalized theories, culminating in pure mathematics, where many of the initial complexities have been shed. Chemistry, especially organic chemistry, is the stage of greatest complexity, and thus requires the greatest attention *now* (and not, as Dr Ranganathan once said, when challenged to deal with chemistry, 'Not in this birth!'). Some primary notational and taxonomic stages remain to be solved, especially the notation of organic compounds. The Dyson and Wiswesser systems are now being compared in a research in America; it must be remembered, however, that such notations are not classifications, though by machine sorting classified groupings may be selected. Attempts at classification in organic chemistry have so far yielded only very rough groupings, and these are quite unsuitable for dealing with, say, high-polymer chemistry. There is moreover an increasing demand to search for partial chemical structures and groupings, such as, say, substituted amines in combination with a benzhydryl group (for pharmacologically active compounds). This is a very difficult problem.

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Other problems concern the retrieval of literature relating to chemical properties, physical properties, or reactions, considered as separate items. Such characteristics are also usually in complex relation to the uses of compounds, which is another classification group. The latter are paramount in applied chemistry. Chemistry thus exhibits the information problem at its most complex—an infinite number of units in the pattern, unbounded interaction between them, endless affiliations with other subjects, a unique notational problem, and the largest literature. Chemistry indeed presents the crux of the information problem.

Dealing with the information problem is a relatively new task, a new field of research, perhaps a new science. Researches on the availability of literature to scientists barely start to attack the problem. Research in classification is beginning to be more systematic, but has far to go. Notational methods in chemistry are but a small part of the work to be done. There is, however, as yet no organized development of research, no hope of steady advance on the basis of established facts. There is a need to study more carefully the nature of the problem, the characteristics of the knowledge to be organized. We could perhaps study the degree of distortion of knowledge imposed by classification, or the inaccuracy resulting from separation into words and mechanical reassemblage. Searches of the literature made by different organizations on the same subject could be compared in order to assess the amount, and possibly the value, of the loss entailed by different methods. The effects of methods of presentation of knowledge upon its use could be examined; the effects of the rate of presentation of information upon the lag in application might be studied, and compared in different fields, e.g. chemistry and engineering.

Theoretical researches should be undertaken concurrently, since progress must be based on sound theory, of which there is little as yet. Some form of structural indexing other than classification may be necessary. Mechanization will be essential, but must be evolved to meet the tasks shown theoretically to be necessary. We need to know more of the psychological problem of the effect of the method of presenting information upon the recipient so that he is stimulated to make the maximum use of it. Finally, the subject material to be used must be carefully selected. Simplified studies, researches in controlled fields, and controlled conditions will always be necessary for progress in research, but any proposed solutions must ultimately be applicable even to the most complex situations. I suggest that chemistry should always be borne in mind as the necessary ultimate test subject; perhaps, because of the urgency of its problems, it should also be the first test subject.

BRITISH UNION-CATALOGUE OF PERIODICALS

FOURTEENTH ANNUAL REPORT OF THE COUNCIL FOR THE YEAR ENDED 31ST MARCH 1958

THE year has been eventful for the *British Union-Catalogue of Periodicals.* It has seen the completion of the original scheme, and also the fulfilment of the widely expressed desire that the work should be established on a permanent basis.

The *British Union-Catalogue of Periodicals* was completed by the publication on 15th August 1957 of Volume III (L–R) and on 23rd January 1958 of Volume IV (S–Z). The reception given to the work throughout the world by its users and by the press has been highly favourable. There is now no doubt that it is regarded as an indispensable work of reference in libraries of all kinds and sizes.

Many testimonies to this have been received; and we have been pleased in particular by those from the librarians of the smaller libraries who have found that it greatly extends their potential resources and usefulness.

We are, indeed, highly gratified by the warm welcome given to the work, and we have congratulated the Editor and his staff on this successful conclusion of a long and exacting labour.

As the original scheme approached completion we gave much consideration to the future. The published volumes have created a strong and widespread demand for (*a*) a supplement to bring the work up to date; and (*b*) the establishment of the organization on a permanently continuing basis. The need for a supplementary volume has been obvious. The main work extends to about the year 1950, and since that date there have been great developments in the output of new periodicals in all countries. During the same period, British libraries have been increasingly active in acquiring the journals of research and information published throughout the world. A continuation of BUCOP to provide a guide to this great mass of available, but at present centrally unrecorded material, has therefore been our first objective.

We are happy to be able to say that the Nuffield Foundation has generously made a grant to cover, over a period of three years, the compilation of a *British Union-Catalogue of Current Periodicals.* This volume, which will be a direct continuation of BUCOP, will include periodicals new since about 1950, as well as material additional to the four volumes already published.

Our grateful thanks are due to the Nuffield Foundation for thus making it possible to provide what will be an invaluable guide to so much new material for research and information.

Work on the new *British Union-Catalogue of Current Periodicals* has proceeded according to plan. Extensive circularization of co-operating libraries has resulted in ready support from most of the important centres; and many libraries have already sent in their main lists of holdings with promises of regular supplementary lists. In the meantime, much work has been done on the basic bibliographical list of periodicals, founded mainly on the accessions to the library of the British Museum.

Our longer-term problem has been to ensure that, after the appearance of the supplementary volume, the work of BUCOP shall continue. In this connection we are much gratified by the decision of the Trustees of the National Central Library that the work should subsequently be taken over on a continuing basis as part of the normal activities of that Library.

These happy results of prolonged negotiations owe much to our Chairman, Dr Oldman, and we record our high appreciation of his invaluable services.

During the year we have welcomed two new members of the Council: Miss D. J. Collihole, M.B.E., representing the British Council (in place of Miss C. M. Pollock); and Mr Adrian Whitworth, M.A., representing the Joint Standing Committee on Library Co-operation (in place of Mr John Wilks).

Our grateful thanks are due to the Trustees of the British Museum for providing the accommodation and facilities for our work. Our thanks are also due to our Editor and his staff who have given whole-hearted service during a period of considerable stress and uncertainty; and to members of the staff of the Department of Printed Books of the British Museum who have given much valued assistance.

BRITISH UNION-CATALOGUE OF PERIODICALS

INCOME AND EXPENDITURE ACCOUNT YEAR ENDED 31ST MARCH 1958

1957 £	1957 £		£	s.	d.	£	s.	d.
		INCOME						
	2,250	Advance on account of Royalties from Butterworth & Co. (London) Ltd.	1,622	0	0			
	—	On account of Grant Receivable from the Nuffield Foundation	1,583	6	8			
	2,250					3,205	6	8
		EXPENDITURE						
25		Administrative Expenses	51	0	0			
2,326		Salaries	2,341	4	10			
40		Field Work	34	14	0			
25		Travelling and Conference Expenses	14	10	0			
20		Editorial Expenses	10	16	6			
—		Stationery	8	5	0			
3		Audit and Accountancy	3	3	0			
15		Sundry Expenses	5	3	0			
	2,454					2,468	16	4
(Deficit)	204	SURPLUS FOR YEAR carried down				736	10	4
(Deficit)	204	SURPLUS FOR YEAR TO 31ST MARCH 1958, brought down				736	10	4
(Surplus)	113	LESS: ACCUMULATED DEFICIT brought forward at 1st April 1957				90	14	2
(Deficit)	91	SURPLUS AT 31ST MARCH 1958				645	16	2
		Represented by:						
		Cash at Bank and in hand	764	7	2			
		Less: Sundry Creditors	118	11	0			
	£91					£645	16	2

BRITISH UNION-CATALOGUE OF PERIODICALS

INCOME AND EXPENDITURE ACCOUNT YEAR ENDED 31ST MARCH 1958

	Butterworth Royalties			*Nuffield Foundation*			*Total*		
INCOME	£	*s.*	*d.*	£	*s.*	*d.*	£	*s.*	*d.*
Advance on Account of Royalties	1,622	0	0				1,622	0	0
Advance on Account of Grant				1,583	6	8	1,583	6	8
	1,622	0	0	1,583	6	8	3,205	6	8
EXPENDITURE									
Administrative Expenses	25	10	0	25	10	0	51	0	0
Salaries	1,523	13	7	817	11	3	2,341	4	10
Field Work	34	14	0				34	14	0
Travelling and Conference Expenses	7	0	0	7	10	0	14	10	0
Editorial Expenses	10	16	6				10	16	6
Stationery				8	5	0	8	5	0
Audit and Accountancy	1	11	6	1	11	6	3	3	0
Sundry Expenses	4	0	0	1	3	0	5	3	0
	1,607	5	7	861	10	9	2,468	16	4
SURPLUS FOR THE YEAR	14	14	5	721	15	11	736	10	4
DEFICIT AT 1ST APRIL 1957 brought forward	90	14	2				90	14	2
SURPLUS FOR THE YEAR	14	14	5	721	15	11	736	10	4
	75	19	9	721	15	11	645	16	2
Represented by:									
Cash at Bank	23	18	3	772	0	0	748	1	9
Cash in Hand				16	5	5	16	5	5
	23	18	3	788	5	5	764	7	2
Less: Sundry Creditors	52	1	6	66	9	6	118	11	0
	75	19	9	721	15	11	645	16	2

We have examined the above Income and Expenditure Accounts with the Books and Records of Aslib and certify that it is correct and in accordance therewith.

Warwick House,
Warwick Court,
Gray's Inn,
London, W.C.1.
6th October 1958.

REYNOLDS, ADAMS & LAKE,
Chartered Accountants.

SELECTIONS FROM THE RECENT LITERATURE

Books and Pamphlets

ABRAHAMS, GERALD
The law for writers and journalists, by Gerald Abrahams . . . London, Herbert Jenkins, 1958. 224 pp. 21*s*.

AMERICAN MANAGEMENT ASSOCIATION
Men, machines and methods in the modern office. New York, Office Management Division, American Management Association, 1958. 148 pp. $3.75.

ASHBY, *Sir* ERIC
Technology and the academics. London, Macmillan, 1958, vii, 118 pp. 15*s*.

*ASSOCIATION OF AMERICAN LIBRARY SCHOOLS
Directory, 1958; comp. by Thelma Eaton. 4th ed. Urbana, Ill., the Association, 1958. vii, 39 pp. $2.

BLICKLE, MARGARET D., *and* HOUP, KENNETH W.
Reports for science and industry. New York, Henry Holt & Co., 1958. x, 320 pp. tables, diagrs. $4.75.

BRITISH PAPER AND BOARD MAKERS ASSOCIATION. *Technical Section*
Fundamentals of papermaking fibres. Transactions of the symposium held at Cambridge, September, 1957. Edited by Francis Bolam. Kenley, Surrey, the Association, 1958. x, 487 pp. illus., tables, diagrs. 75*s*.

CEMACH, HARRY P.
Work study in the office. London, Current Affairs, 1958. viii, 166 pp. illus., tables, diagrs. 25*s*.

CHICAGO UNIVERSITY. *University College*
Proceedings, Executive Conference on Organizing and Managing Information—1958 and conference for special librarians; a one-day conference for business and industry sponsored in co-operation with the Graduate Library School, the University of Chicago and Illinois Chapter, Special Libraries Association; ed. by Shirley F. Harper. Chicago, University College, 1958. 96 pp. $5.

CLARK, G. KITSON
Guide for research students working on historical subjects, by G. Kitson Clark. Cambridge, CUP, 1958. 56 pp. 5*s*. 6*d*.

DAHL, SVEND
History of the book, by Svend Dahl. First English edition. New York, Scarecrow Press, 1958. vi, 279 pp. illus., plates, facsims. $6.

*DEUTSCHER NORMENAUSSCHUSS
Dezimalklassifikation. Zweite Deutsche gesamtausgabe achte internationale ausgabe. Herausgegeben vom Deutschen Normenausschuss. Abteilung 5: Mathematik, Naturwissenschaften. Berlin, Beuth-Vertrieb, 1958. 289 pp. DM 54.

*FEDERATION OF BRITISH INDUSTRIES
F.B.I. Register of British Manufacturers 1959. Thirty-first edition. London, Kelly's Directories, Ltd, and Iliffe & Sons Ltd, 1958. 1139 pp. illus. 42*s*.

GREAT BRITAIN. Board of Trade
Report on the census of production for 1954, vol. 10: industry K, printing and publishing, bookbinding, engraving, etc. London, HMSO, 1958. [18] pp. 2*s*. 6*d*.

HENDRICKSON, J. RAYMOND
The research paper, by J. Raymond Hendrickson. New York, Henry Holt & Co., 1958. xvi, 76 pp. $1.35.

JENNETT, SEÁN
Pioneers in printing . . . by Seán Jennett. London, Routledge & Kegan Paul, 1958. xi, 196 pp. illus. 25*s*.

LEWIS, ROY, *and* STEWART, ROSEMARY
The Boss: the life and times of the British business man, by Roy Lewis and Rosemary Stewart. London, Phoenix House, 1958. 255 pp. 21*s*.

*LIBRARY ASSOCIATION. London and Home Counties Branch
The London union list of periodicals: holdings of the municipal and county libraries of Greater London. 2nd ed.; ed. by Owen W. Keen and Kathleen Hancock. London, the Branch, 1958. [16], 221 pp. 80*s*. (65*s*. to members.)

*LIBRARY ASSOCIATION. North West Branch
Union list of 7,000 periodicals in 112 libraries of the North West; compiled and edited by J. C. Hartas, B.COM., A.L.A. Warrington, L.A., N.W. Branch, 1958. vi, 117, [6] pp.

MCCULLOUGH, WINIFRED
Appointment at 10.30, by Winifred McCullough. Illustrated by Christine Dixon. London, The Industrial Welfare Society, 1958. 28 pp. illus. 3*s*. 6*d*.

MERRITT, LEROY C., *and others*
Reviews in library book selection, by Leroy C. Merritt, Martha Boaz and Kenneth S. Tisdel. Detroit, Wayne State University Press, 1958. xv, 188 pp.

NAFZIGER, RALPH O., *and* WHITE, DAVID M.
Introduction to mass communications research, edited by R. O. Nafziger and David M. White. Baton Rouge, State University Press, 1958. ix, 244 pp. $5.

NATIONAL OFFICE MANAGEMENT ASSOCIATION
NOMA glossary of automation terms, by

William J. Jacquette, Charles E. Ginder, and Harry L. Baker III. Willow Grove, Pa., the Association, [1958]. 35 pp. mimeographed. $2.

ROTHSTEIN, JEROME
Communication, organization and science, by Jerome Rothstein. With a foreword by C. A. Muses. Indian Hills, The Falcon's Wing Press, 1958. xcvi, 110 pp. diagrs. $3.50.

UNILEVER LTD. Office Methods Section
O & M Bulletin, no. 21, 1958. Ideas, new methods, equipment for the office. London, Unilever, 1958. 211 pp. 2*s.* 6*d.*

UNITED NATIONS. FOOD AND AGRICULTURAL ORGANIZATION
Current bibliography for fisheries science, prepared by Biology Branch, Fisheries Division. . . . Rome, Food and Agricultural Organization of the United Nations, 1958. [118] pp.

UNITED STATES. ATOMIC ENERGY COMMISSION. *Technical Information Service Extension*
Manual for organization of an AEC card catalog. 2nd rev. ed. Oak Ridge, Tenn., the Commission, 1958. iii, 24 pp.

URWICK, LYNDALL F.
Is management a profession? by Lyndall F. Urwick. London, Urwick Orr and Partners Ltd. First published 1954, second impression 1958. 28, [4] pp. 3*s.*

VICKERY, B. C.
Classification and indexing in science, with an introduction by D. J. Foskett. London, Butterworths, 1958. xvii, 185 pp. 25*s.*

WORMALD, FRANCIS, *and* WRIGHT, C. E.
The English library before 1700: studies in its history, edited by Francis Wormald and C. E. Wright. London, University of London Athlone Press, 1958. xi, 273 pp. photos. 35*s.*

Articles and Papers

ALBRECHT, H. F.
Einige Probleme und Fragen der Patentdokumentation im Industriebetrieb. *Nachrichten für Dokumentation*, vol. 9, no. 3, September 1958, pp. 117–22.

BARLEN, SIGRID
Kostenersparnis in der Dokumentation. *Dokumentation, Fachbibliothek, Werksbücherei*, vol. 6, no. 11/12, September 1958, pp. 192–4.

BURKETT, J.
Nuclear power progress, 1957: survey of the published literature on nuclear engineering and related aspects. Langley, Bucks, Hawker Siddeley Nuclear Power Co., 1958. 21 pp. [Reprinted from *Nuclear Engineering, British Chemical Engineering*, and *Metallurgia.*]

BUSINESS ARCHIVES LIBRARY
House publications recently added to the Business Archives Library. London, Business Archives Council, 1958. [4] pp.

COBLANS, HERBERT
Machines and documentation. *Discovery*, vol. 19, July 1958, pp. 276–81.

ERIKSSON, KARL-AXEL
Kontorstekniska hjälpmedel: bibliotekens dupliceringsmetoder. (Duplicating methods in the library.) *Tidskrift för Dokumentation*, vol. 14, no. 4, 1958, pp. 49–52.

FRANK, OTTO
Die Kennzeichnung von Personen in der Dezimalklassifikation. *Dokumentation, Fachbibliothek, Werksbücherei*, vol. 6, no. 11/12, September 1958, pp. 187–90.

GEARING, H. W.
Automation and the office—1. *Computer Bulletin*, vol. 2, no. 3, October/November 1958, pp. 43–6.

HALDENWANGER, H., *and* EVEN, G.
Nutzeffekt und Kosten der Literaturbearbeitung in einer kleinen Dokumentationsstelle der Industrie. *Nachrichten für Dokumentation*, vol. 9, no. 3, September 1958, pp. 145–9.

HART, JAMES D.
Search and research: the librarian and the scholar. *College and Research Libraries*, vol. 19, no. 5, September 1958, pp. 265–74.

International Conference on Information Processing, Paris, 15–20 June, 1959. *Computer Journal*, vol. 1, no. 3, October 1958, p. 105.

LELIÈVRE, PIERRE
La formation des bibliothécaires en France. *Zentralblatt für Bibliothekswesen*, vol. 72, no. 1, 1958, pp. 1–12.

LOHSE, GERHART
Doppelzettel im systematischen Katalog, vor allem in der Dezimal-Klassifikation. *Nachrichten für Dokumentation*, vol. 9, no. 3, September 1958, pp. 142–4.

MARGRAVE, MARY LOU, *and* MARGRAVE, JOHN L.
Choosing a chemical keyboard for your typewriter. *Journal of Chemical Education*, vol. 35, no. 9, September 1958, p. 467.

MOHRHARDT, FOSTER E.
Critique on developments in the mechanization of information systems. *College and Research Libraries*, vol. 19, no. 5, September 1958, pp. 395–7.

MURHU, R.
Kirjastonhoitajien koulutus (Training of librarians). *Kirjastolehti*, vol. 51, no. 2, February 1958, pp. 35–8.

NICHOLSON, JOHN B., *jr.*
The jargon of librarianship. *Aspects of Librarianship*, no. 16, Spring 1958, 34 pp.

PARKER, WYMAN W.
College library standards and the future. *College and Research Libraries*, vol. 19, no. 5, September 1958, pp. 357–64.

PERFILEV, M. N.
International library loans: problems encountered at the library of the U.S.S.R. Academy of Sciences. *Unesco Bulletin for Libraries*, vol. 12, no. 10, October 1958, pp. 225–7.

RANGANATHAN, S. R.
Document, documentation and standardization. *Library Herald*, vol. 1, no. 1, April 1958, pp. 1–15.

RICHENS, R. H.
Interlingual machine translation. *Computer Journal*, vol. 1, no. 3, October 1958, pp. 144–7.

SAUGET, M-H.
Les principales organisations européennes et leurs publications. *Bulletin des Bibliothèques de France*, vol. 3, no. 7–8, July–August 1958, pp. 499–517.

SWANTON, W. F.
Should there be a standard classification system for engineering literature? *Chemical Engineering Progress*, vol. 54, no. 4, April 1958.

TOMLINSON, NORMAN
The reissue of out-of-print books. *Bookseller*, no. 2755, 11 October 1958, pp. 1510–6.

UNITED STATES. NATIONAL LIBRARY OF MEDICINE
Guide to Russian medical literature, [edited by] Scott Adams and Frank B. Rogers. Washington, U.S. Department of Health, Education, and Welfare, 1958. iv, 89 pp. 40 cents.

WILKES, M. V.
The second decade of computer development. *Computer Journal*, vol. 1, no. 3, October 1958, pp. 98–105.

All the above items may be borrowed from Aslib Library, except those marked with an asterisk. Most of these are available for consultation in the Library, apart from a few for which locations in other libraries can be given.

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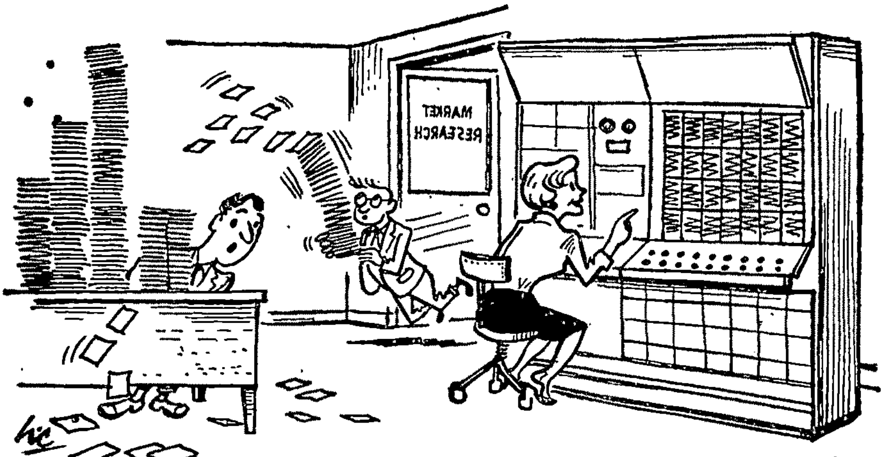

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ASLIB PROCEEDINGS

incorporating Aslib Information

Volume 11 February 1959 Number 2

ASLIB CALENDAR

FEBRUARY

TUESDAY 24th. Engineering Group visit. See paragraph below.

MARCH

WEDNESDAY 25th. Midlands Branch Annual General Meeting.

APRIL

MONDAY 6th. Advanced course on classification and indexing commences.

FRIDAY 10th. Fuel and Power Group visit.
Textile Group Annual General Meeting.

THURSDAY 16th. Winter meeting. See paragraph below.

MAY

FRIDAY 8th. Conference on technical information. See paragraph below.

THURSDAY 14th. Engineering Group visit. See paragraph below.

OCTOBER

MONDAY 5th–WEDNESDAY 7th. Annual Conference at the Grand Hotel, Scarborough.

Official Opening

Aslib's new headquarters at 3 Belgrave Square, London, S.W.1, were officially opened on 12th January 1959 by Viscount Hailsham. As Lord President of the Council, Lord Hailsham is responsible for D.S.I.R. through which Aslib's Government grant is administered. The opening ceremony was performed at an informal house-warming party to which representatives of all organizations and all individuals who had contributed to the purchase fund had been invited. Nearly 250 attended. The guests were welcomed by Mr F. C. Francis, Director-designate of the British Museum and President of Aslib, who expressed Aslib's thanks for the generous donations which had made it possible to purchase a seventy-seven-year lease of the property. In opening the headquarters, Lord

Hailsham announced that Aslib was to receive a substantial increase in its grant for the five years 1959–63, but pointed out that the new terms could not be expected to remain in force indefinitely. He therefore urged that Aslib's members should substantially increase their support.

The remainder of the week was given over to Open Days and, in spite of extremely inclement weather, some 200 members visited the new premises.

Meetings and Courses

A meeting will be held at 5.30 p.m. on Thursday 16th April at Aslib, when B. Agard Evans, Chief Librarian, Ministry of Works, will speak on 'Special libraries in India'. Mr Agard Evans has recently returned from a twelve-month tour of duty in India as Documentation Expert with the United Nations Technical Assistance Board, and adviser to the National Building Organization of India on the setting up of building information centres throughout the country.

A one-day conference on 'Technical information: its presentation and interpretation' will take place at the Connaught Rooms, London, on Friday 8th May. Arrangements are also being made for a course on the production and reproduction of information department publications as well as for an introductory course for graduate newcomers to information work. Detailed notices will be distributed to members.

Engineering Group

On Tuesday 24th February members of the Group will be able to make an afternoon visit to Messrs Charrington's Anchor Brewery, Mile End Road, London. An evening visit to the Post Office Railway and Sorting Offices, Mount Pleasant, has been arranged for Thursday 14th May. As numbers are strictly limited, members of the Group who are interested in these visits should apply as soon as possible to the Hon. Secretary, Miss M. Surry, Westinghouse Brake & Signal Co. Ltd, 82 York Way, King's Cross, London, N.1.

Film Production Librarians' Group

At an Aslib Conference in September 1955, Sir Arthur Elton presented a paper on 'Film as source material for history'. As a result, a working party was called the following June representative of film production librarians, known to the trade as 'stock shot' librarians. Because of the specialized nature of their work it was agreed to form a standing group for the exchange of information by holding meetings, lectures, and discussions. This group has now been formally recognized as the Aslib Film Production Librarians' Group. Members interested in obtaining particulars of the Group's activities, meetings, etc., should apply to the Hon. Secretary, Miss Peggy Dowling, Shell Film Unit, Norman House, Strand, W.C.2.

International Cataloguing Conference

The Council of the International Federation of Library Associations (IFLA) is preparing to hold, probably early in 1961, the first international conference to be devoted entirely to cataloguing problems. It will be organized by the

IFLA Working Group on the Co-ordination of Cataloguing Principles, of which Mr F. C. Francis is Chairman. A preliminary meeting to determine the scope and objects of the conference will be held during the week commencing Monday 20th July, at Chaucer House, Malet Place, London, W.C.1.

It is expected that the conference will be concerned only with alphabetical catalogues of authors and titles and that the agenda will be limited to questions affecting the choice and form of entry words and headings. It is suggested that the primary aim should be general agreement on the main purpose to be served by the alphabetical catalogue and on general principles of catalogue construction, followed by consideration of special questions such as the treatment of composite names, the choice of entry for works of joint authorship, the treatment of corporate names, and the form and arrangement of title entries for anonymous works and serial publications. Communications on this aspect of the Group's work are invited. They should be sent to Dr Ludwig Sickmann, Bibliothekar-Lehrinstitut des Landes Nordrhein-Westfalen, Albertus-Magnus Platz, Köln-Lindenthal, Germany.

International Congress of Music Libraries

The First International Congress of the Galpin Society, the fifth International Congress of Music Libraries and the third General Assembly of the International Association of Music Libraries will be held jointly from Monday 29th June to Saturday 4th July in King's College, Cambridge. Further details, together with forms for offers of papers and application for attendance, which must be completed and returned by 16th March, are obtainable from the Hon. Secretary, International Association of Music Libraries, Royal Academy of Music Library, Marylebone Road, London, N.W.1.

L.L.U. Translations Bulletin

The first issue of the new *L.L.U. Translations Bulletin,* dated January 1959, has been published by H.M.S.O. It is a modified version of the D.S.I.R. *Translated Contents List of Russian Periodicals*, and will contain lists of translations procured and produced by the D.S.I.R. Lending Library Unit as well as information about translations available from other organizations. There will also be occasional articles on current progress in sections of Soviet science and technology, some of which will be translations of Russian articles. It is hoped that this last section will help to direct the attention of British scientists and engineers to special areas of interest which they may wish to investigate more closely in the Russian scientific journals. *L.L.U. Translations Bulletin* is published monthly at an annual subscription of £2 13*s*., single copies 4*s*., and can be obtained from H.M.S.O., York House, Kingsway, London, W.C.2, or through any bookseller.

Business History

In December 1958 the first issue of a new journal entitled *Business History* was published by Liverpool University Press in collaboration with the Business Archives Council. It contained five main articles on business activities and a number of book reviews. *Business History* will be published twice yearly in May and December at an annual subscription of 30*s*. Contributions will be welcomed relating not only to the development and policies of individual firms but to the wider implications of industrial and commercial change, and to the application of statistical and accountancy techniques to business history. Subscriptions and contributions should be addressed to the Editor, Professor F. E. Hyde, Department of Economics, 11 Abercrombie Square, The University, Liverpool, 7.

Business and Specialised Publications of Great Britain

The Council of the Trade and Technical Press has recently produced a booklet entitled *Business and Specialised Publications of Great Britain: including manuals, year books, and similar publications.* It contains brief details of some 200 journals which are within the membership of the Council, listed in alphabetical order of title, with a separate list of directories, year books, and annual publications, followed by a subject index to the titles. No page references are given in the index, so that in some cases it may not be clear to the user whether he must seek the title that he wants among the journals or among the annuals. In spite of this slight disadvantage, the list may prove useful to information officers. *Business and Specialised Publications of Great Britain* can be obtained, free of charge, from The Council of the Trade and Technical Press, Imperial House, Kingsway, London, W.C.2.

Technical Data on Industrial Materials

Materials Data Limited are arranging to publish, at frequent intervals, lists of various industrial materials. The first survey is being published in three parts: Part 1, Mainly mechanical properties; Part 2, Mainly thermal and electrical properties; Part 3, Thermal, electrical, mechanical ratios. The lists are available, free of charge, to members of the Materials Data Centre, Materials Data Limited, 273 Farnborough Road, Farnborough, Hants. The annual subscription to the Centre is 7 guineas.

Atomic Information

In order to make atomic information more easily available, the United Kingdom Atomic Energy Authority has decided to make fuller use of microphotography. Arrangements have been made with Micro Methods Ltd for the reproduction of microcopies on card of all unclassified and declassified reports issued between 1947 and December 1956 and, on a continuing basis, of reports issued since 1956 which are not available from H.M.S.O. Microcopies should be ordered direct from Micro Methods Ltd, East Ardsley, Wakefield, Yorkshire. Paper copies of all currently issued unclassified reports may now be obtained against a running account from the Library, Atomic Energy Research Establishment, Harwell, Didcot, Berks.

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Indian Institute of Science

The Indian Institute of Science, Bangalore 3, South India, celebrated its Golden Jubilee on 2nd February. The Institute was founded by Jamsetji Nusserwaji Tata in 1909 and the cornerstone of the present main building was laid two years later. It was the first institute of its kind to be established in India and has been a pioneer in advanced instruction and research in pure and applied sciences. It includes one of the best scientific and technical libraries in the country. Papers by research workers in the Institute are published quarterly in the *Journal of the Indian Institute of Science.*

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Blackburn & General Aircraft Ltd	Brough	W. H. Holmes
Blaw Knox Ltd	London	Brig. F. H. Maclennan
Bondina (B.D.A.) Ltd	London	D. H. Robbins
Bourne, S., & Co. Ltd	Nottingham	A. Gibney
Boving & Co. Ltd	London	G. T. Keast
Bradley & Co. Ltd	Bilston	K. H. Rowe-Ham
Brixton School of Building	London	K. G. Turner
Burma. Union of Burma Applied Research Institute	Rangoon	Zin Maung
Colgate Palmolive Ltd	Salford	J. M. Blakeway
College of Medical Evangelists	U.S.A.	R. S. Scharffenberg
Comitato Nazionale per le Ricerche Nucleari	Italy	Dr A. Baroni
Commonwealth Institute	London	D. A. Ashley
Constantine Technical College	Middlesbrough	Dr G. S. Atkinson
Cork City Public Library	Cork	Dermot Foley
Coventry Technical College Library	Coventry	E. G. Baxter
Danish Bacon Co. (Industries) Ltd	Selby	S. C. Shell
Dathan Tool & Gauge Co.	Huddersfield	F. Rushworth
Dawley Brook Papers Ltd	Kingswinford	N. T. Winkworth
Dow Agrochemicals Ltd	London	Dr W. E. Ripper
Dunlop Rubber Co. Ltd	London	Miss B. A. Longmore
Evans Medical Supplies Ltd	Liverpool	Dr D. Riding
Firth-Vickers Stainless Steels Ltd	Sheffield	J. I. Morley
Galitzine & Partners Ltd	London	Mrs L. A. Stoddart
Glover, J., & Sons Ltd	London	R. S. Weatherley
Grapa, Salvador C., Jr	Philippines	
Griffin & George (Technical Services) Ltd	Wembley	A. G. Brown

Griffith, W. P., & Sons Ltd	London	D. G. Proctor
Halcrow, Sir William, & Partners	London	D. J. W. Valder
Hygrotherm Engineering Ltd	Tadworth	E. Beanland
Ilkeston Public Library	Ilkeston	C. Hargreaves
Imperial Chemical Industries Ltd	Co. Durham	D. V. Arnold
India. National Buildings Organization	India	S. C. P. Malik
Institut Agronomique de l'Etat	Belgium	Mme L. Willam
Japanese Embassy	Turkey	A. Honda
Kango Electric Hammers Ltd	London	F. Badcock
Keighley Technical College & School of Art	Keighley	N. Craven
Lewis, John, & Co. Ltd	London	Owen Dixon
Lockheed Aircraft Corporation	U.S.A.	Dr T. Teichmann
Mobil Oil Co. Ltd	Coryton	Miss P. Dugdale
N.U.M.A.S. (National Union of Manufacturers Advisory Service Ltd)	London	
National Foundation for Educational Research	London	D. Wilson Bell
Newnes, George, Ltd	London	Dr J. Gordon Cook
Nielson, A. C., Co. Ltd	Oxford	
Nigerian Pre-stressed Concrete Co. Ltd	Nigeria	O. A. MacDermott
Norma Skemp Ltd	London	Mrs Norma Skemp
Norris Brothers Ltd	Burgess Hill	D. L. Stevens
Overseas Geological Surveys	London	H. A. Follett
Perkin-Elmer Ltd	Beaconsfield	L. K. Parker
Prague. Knihovna Vysokych Skol Technickych	Prague	Dr Vacha
Pullin, R. B., & Co. Ltd	Brentford	Mrs K. Bourton
Rank, Joseph, Ltd	London	D. C. R. Scott
Scottish Horticultural Research Institute	Invergowrie	R. MacKenzie
Shaw, Francis, & Co. Ltd	Manchester	
Sperry Gyroscope Co. Ltd	Bracknell	R. S. Lawrie
Stretford Technical College	Stretford	W. Luby
Tanganyika. The Technical Institute	Dar es Salaam	J. W. Crabtree
Thompson, W. P., & Co.	Liverpool	J. R. Hindley
Underseas Ltd	Battle	Lt.-Cdr. M. Terrell
Wales. University College of Wales Library	Aberystwyth	Arthur ap Gwynn
Water Planning for Israel Ltd	Israel	H. Wellisch

Individual

Bagshaw, N. E.
Bird, J.
Brown, D. G.
Brown, Dr D. G.
Edgar, Mrs D. E.
Goodey, K. N.
Green, A. J.
Hartas, J. C.
Hartrodt, R. L. C.
Hunt, Miss Joan
Manning, A. J.
Marcks-Franke, Mrs I.
Marx, H. A.
Palmer, Miss S.
Ramsbotham, Miss B.
Starling, Miss Jean
Stowell, Mrs E. E.
Swerdlow, Dr Mark
Vickers, P. H.

A REPORT OF THE INTERNATIONAL CONFERENCE ON SCIENTIFIC INFORMATION, WASHINGTON, NOVEMBER 1958

Aslib meeting, London, 12 December 1958

R. M. FISHENDEN, Atomic Energy Research Establishment, Harwell, described the general organization of the conference, which was divided into seven areas, half a day being devoted to each area and all delegates able to attend. For each area the organizers had selected a discussion panel which took up about two-thirds of the time available for discussion; other participants, such as authors and members of other panels, could speak during the remaining time. The rest of the conference delegates were segregated behind a rope barrier, solely as observers.

Sir Lindor Brown in his opening address had said that the conference organization seemed to him a daring experiment and that the organizers had put much faith in the skill and efficiency of panel chairmen. He was sure that they had taken tremendous pains in the organization of their discussions. In Mr Fishenden's view the experiment had failed, because several days preliminary work by each panel would have been required to produce an adequate synthesis of papers and constructive suggestions for future action.

AREA 1. *Literature and reference needs of scientists: knowledge now available and methods of ascertaining requirements.*

The methods available for investigating information needs were summarized by Elin Tornudd, Secretary, Scandinavian Council for Applied Research, under four headings.

1. Questionnaires, which were criticized for subjectiveness.
2. Interviews, which suffered from the same weakness and an additional disadvantage that the answers might be influenced by the personality of the interviewer.
3. Diaries, which might be equally unreliable, as full reporting is difficult to obtain even under controlled conditions of study.
4. Case study, which is a slow and costly method needing highly trained investigators.

Mrs Tornudd's paper described a questionnaire study set up in Denmark and Finland to supplement previous studies, most of which had been carried out in the United States and Great Britain. The object was to ascertain the requirements for information of those likely to be encountering the greatest problems, but the results were disappointing. One question, however, was of special interest. It called for specific instances of undesirable duplication of research because information was not available; the results showed only nineteen instances in a sample of 200.

There were a number of papers dealing with the interview method. Christopher Scott, Central Office of Information, had investigated the use of literature by industrial technologists, a sample of 1,082 being taken from 127 firms in the British electrical and electronic industry. A well-designed, ten-page questionnaire was issued, which avoided subjective questions and gave a good picture of the sample chosen.

I. H. Hogg and J. Roland Smith, United Kingdom Atomic Energy Authority, had aimed primarily at a customer survey by library and information staff in a large organization, but a short diary record had also been included.

Bentley Glass and Sharon H. Norwood, Johns Hopkins University, had set out to discover how scientists actually learnt of work which was important to them. They asked fifty selected scientists to choose five or six important references from their own recently published papers and to say how they first learnt of the existence of each. This method had the great merit of simplicity, but its reliability was equal to that of the interviewee's memory.

Herbert Menzel, Columbia University, had described some of the work carried out under a grant from the National Science Foundation 'to explore ways in which communication research by interview survey methods can contribute to an understanding of the needs and means of scientific information exchange. On the basis of such an understanding, proposals to improve scientific communication might be generated and evaluated'. Mr Fishenden felt that this was a worthy aim, but pointed out that the questionnaire filled twenty pages of the printed proceedings of the conference and he thought that it attacked on too broad a front. Mr Menzel had stated that: 'The exploratory study was intended to define problems, categories, and procedures for more systematic investigation'. Mr Fishenden wondered when Mr Menzel would descend from the clouds!

The paper by Saul Herner, Herner & Co., Washington, had dealt with a part of the United States Government's programme to disseminate Soviet scientific information to American medical scientists. A project had been organized to find the most effective established channels of communication, with a view to using these. A sample of 500 medical scientists had been taken, trained interviewers had been employed with an hour and a quarter allowed for each interview. The questionnaire had not been published in the proceedings but the results were summarized. One good question was: 'Do you recall where you got the idea (or inspiration) for your present or most recent project?'

Mr Fishenden advised those undertaking questionnaires or interviews to be guided by three things:

1. Not to ask questions which entailed a strong subjective influence on the answer, such as, 'How long do you spend reading at home?' At the conference, an example had been quoted, 'How long do you spend brushing your teeth?' The replies showed an average of two minutes, but observational tests had proved that the correct answer should have been twenty seconds.
2. To avoid graded questions, such as, 'Do you find Aslib (a) essential, (b) very useful, (c) useful, (d) little use, (e) useless?' Experience shewed that nearly all answers would be in the range (b) to (d) with the average at (c).
3. To frame questions so that a future course of action could be determined from the answers.

Mr Fishenden pointed out that there was only one paper on the diary study methods, and that was his own. Its object was to find out how scientists at Harwell found references to the information that they required and used. He claimed that this offered the simplest and most reliable method of collecting facts in a particular set of circumstances, provided that the diary card was made very simple for the user. He had discussed the records with a sample of the diarists, and they thought the results were 80–90 per cent correct. In a few cases, where a check had been possible, this opinion was substantiated. The diary card had not, however, been so successful in dealing with information passed by the spoken word, which was certainly important.

Case study had been dealt with in two papers. One, by Michael H. Halbert and Russell C. Ackoff, Case Institute of Technology, described the use of operations research study methods to find out how chemists spent their time. Checks had been made twice daily by full-time observers on a sample of one hundred chemists in sixty firms. The results showed that 50 per cent of their time was spent in communication, and 36 per cent in experiment. The communication time had been broken down into fifteen categories, such as asking questions, editing information, reading, etc., and an analysis of oral communication showed that 4.5 per cent of time was spent sending and 3.8 per cent receiving. A tempting deduction was that chemists talked to themselves!

A paper by Saul and Mary Herner described study for the design of a special classification scheme for libraries in the atomic energy field. Approximately 5,000 questions posed by fourteen atomic energy research organizations in the U.S. had been analysed: 82 per cent were scientific or technical. The number of concepts in each question had then been examined and it was found that nearly 90 per cent of them contained three or less concepts. Mr Fishenden said that this seemed a useful method of investigation, but the questions asked might be conditioned by what the inquirers knew they could get from the system.

Mr Fishenden summed up the results obtained in this area:

1. Scientists didn't like order in the information field. They preferred to learn by personal contact rather than the written word. Chance played a considerable part in the pattern of communication.
2. Only about 25 per cent of scientists made regular use of abstract journals to keep up to date with the literature of their subjects. This had been confirmed by several investigators. However, the Harwell investigation had shewn that some 60 per cent were willing to undertake regular scanning of lists of titles.
3. Few workers made use of anything like all the information potentially useful to them, particularly that in foreign languages, but it was impossible to assess the effect of this neglect. Professor Bernal had said, 'the amount to be read increases exponentially, and the time anyone has for reading it remains the same; therefore a smaller proportion of what is written is read by any one person'.
4. One important point that had come out in the discussion was the wide difference between the needs of pure and of applied research workers; the former being so highly specialized that they knew, personally, most of the workers in their own field and had little need for information services

except for techniques and materials in other fields. The applied workers, however, had to cover a far wider field and their needs were consequently greater.

5. The useful span of life of information was short.
6. Communication between information workers and scientists was inadequate, the latter being often unaware of the services available to help them.

He suggested that action should now be taken on the following lines:

1. Find out how much scientists are losing through incomplete use of the available literature.
2. Investigate (a) how scientists obtain their information
   (b) how specialist information services find the material that they pass on to their clients. These data will be needed when considering the use of machines.
3. Investigate the value of organized meetings as a method of communicating information, and undertake further studies on the lines already opened, but using more sophisticated methods leading to testable results.

AREA 2. *The function and effectiveness of abstracting and indexing sources.*

DR B. M. CROWTHER, the Editor of *Science Abstracts*, described the work done at the conference in this area and in Area 3. He said that Area 2 was a session for discussion only. There were no resolutions.

The Chairman of the Panel, Elmer Hutchisson, Director, American Institute of Physics, had suggested a specification of the ideal—that informative abstracts of all papers should be made available in zero time. This was, of course an impossible ideal and it was necessary to compromise. The discussion had therefore been organized by stages. The panel had dealt firstly with production, considering under this heading promptness, quality, condensation, classification, coverage, economy: secondly they had discussed retrieval problems, including coverage, indexing, economy of space, monetary economy.

Promptness

Dr Hutchisson had said that a time lag of more than three months was bad in either publication or abstracting. Time could be saved if authors supplied their own abstracts and it was the editor's responsibility to arrange for this.

S. H. Gould, Editor, *Mathematical Review,* commenting on quality, had said that 'copying' of abstracts was widely practised. He had referred to Mr Herner's report of a case where 516 papers had been taken at random from the January 1955 issues of 511 journals. It had been found that of these, 207 had been abstracted more than once in nine abstracting journals; 67 per cent were labelled as author's abstracts and it was found that some others, not so labelled, had also been supplied by the authors. Detectable subject slanting had been found in a proportion of only one in three of the abstracts.

In the discussion that followed, J. Farradane had said he considered that there must and ought to be subject slanting and that the author was often the worst person to write an abstract of his own paper.

J. D. Bernal, Birkbeck College, University of London, had said that condensation was a problem very different from abstracting. There were at least three purposes for the use of abstracts: (1) to find a particular reference for data, (2) to keep abreast of current publications—if the half-life of a physics article was two years and the average delay in publishing abstracts was two years, the abstracts were useless, (3) to catch up with subject literature. This was a use mainly for writers, teachers, and new entrants to a subject. The length of an abstract should be proportionate to the importance of the subject, slanting should be only for peripheral subjects.

George Shortley, Editor, *Operations Research*, had said that the author and abstract could help in classification. If keywords were provided, the rest was merely clerical work. It was useful to publish the chosen keywords with the abstract as a guide for distribution of the original to users. Dr Crowther felt that a general public abstracting service could only give a rough classification, as the special needs of the users were not always known.

S. R. Ranganathan had said that a duplex specialist was required for classification: one who knew the subject and the classification.

Miles Conrad, Editor, *Biological Abstracts*, speaking of coverage, had stressed the difficulties of acquisition. He had questioned whether it was necessary or desirable to have complete coverage. He felt that in most cases the deficiency of abstracting services was due to lack of resources.

G. A. Boutry, Secretary, ICSU Abstracting Board, had said that it was unreal to seek the ideal in economy. The history of abstracting showed that the first abstracts were very critical, but specialization now makes this impossible. He questioned whether there was a need for highly specialized abstractors. The Royal Society's rules were available to journal editors. Dr E. J. Crane had said that it was often necessary to add to the author's abstract for the sake of complete indexing, and that it would be impossible to train a constantly changing population of 40,000 authors to write proper abstracts!

Dr Crowther had pointed out that the Royal Society's rules and resolutions were directed at *editors*.

Dr Hutchisson had said that the cost of publication and abstracting should both be regarded as part of the cost of research.

The panel had then considered problems of retrieval. Maurice Visscher, Professor of Physiology, University of Minnesota, had said that abstracts were useful, even if they were never read but only consulted, but specialized abstracts should be kept separate from general ones. This was a service which should not be limited by monetary considerations. Mr Farradane had stated that it was only possible to describe what a document was at the time of indexing or abstracting, but not possible to assess its relevance in the future.

E. J. Crane, Editor, *Chemical Abstracts*, had said that indexing was very important and that it was subjects which needed indexing, not words or names. In his view indexing was an art and a science. Mechanization was not yet nearly as effective as the orthodox methods of co-operation of written index and human brain.

Dean Jesse Shera, Western Reserve School of Library Science, had pointed out that an abstracting service could not be all things to all men. He had remarked that magnetic tape was very wonderful, but you could not browse in magnetic tape!

Y. S. Touloukian, Purdue University, had said that abstract journals needed one more thing—a key to their use.

AREA 3. *Effectiveness of monographs, compendia, and specialized centres: present trends and new and proposed techniques and types of services.*

Dr Crowther reported that the Chairman of the Discussion Panel for this area, Dr Alexander King, European Productivity Agency, had told of the increase in complexity of the subject since 1948. He had said that motivation was now economic and military, and that information services had not kept up with development. He favoured reviving the Bernal scheme for paper distribution without bureaucracy, and some unifying control of the abstracting system.

Dale Baker, *Chemical Abstracts*, had referred to Dennis A. Brunning's paper on 'Review literature and the chemist' and said that critical reviews should be published separately from summaries. There was a shortage of qualified reviewers.

P. R. Brygoo, Institut Pasteur, had said that carefully classified abstracts could constitute a review, and that mechanization must come.

Isabella Leitch, Commonwealth Bureau of Animal Nutrition, had stated that in her view the human brain was irreplaceable.

Professor Bernal had said that the review could carry concepts better than data, it was for the peripheral reader and what was wanted was a graded series and closer collaboration between the collector of items and the specialized editor. Another speaker had thought that reviews must be prepared by working scientists rather than information scientists.

AREA 4. *Organization of information for storage and research: comparative characteristics of existing systems.*

AREA 5. *Organization of information for storage and retrospective research: intellectual problems and equipment considerations in the design of new systems.*

AREA 6. *Organization of information for storage and retrospective research: possibility for a general theory.*

B. C. VICKERY, Akers Research Laboratories, said that discussion of these areas had occupied half the time of the conference, and this had perhaps been excessive. The themes laid down included objective accounts and comparisons of existing retrieval systems, development of criteria for comparison, design problems in the development of new systems, application of machines, linguistic analysis, basic theoretical studies and mathematical analysis.

Some thirty-three papers had been presented. Several panelists had complained that they covered the field poorly. For example, accounts of systems were insufficiently objective and detailed, and there was little comparison or development of criteria. These complaints were valid, but the papers presented much valuable material which was not evaluated in discussion.

Among the papers describing existing systems of retrieval, no machine-sorted punched-card system had been included although there were many in operation in the United States alone. Carl J. Wessel and Walter M. Bejuki had described the evolution of a system from catalogue cards to hand-sorted punched cards to peek-a-boo cards. Mortimer Taube had examined the possible use of machine-sorted punched cards for mechanizing uniterms. P. R. P. Claridge had described his plans for a system for chemicals in plants which would operate on the Filmorex. Four papers had been concerned with experiments in chemical structure searching by electronic computer.

All these papers had been descriptive and without tests of efficiency or economic evaluation. Only three papers had been concerned with tests: R. C. Wright and C. W. J. Wilson had tested a peek-a-boo system with indexing terms drawn from a classification, Eugene Miller and others had compared the efficiency of an IBM punched-card machine with a matrex uniterm device in sorting for identically-coded steroid structures, and C. W. Cleverdon had given an account of the Aslib test of indexing systems being undertaken at Cranfield.

Mr Vickery said that the discussion of these papers at the conference had been rather general and unrealistic. Several speakers had stressed the great number of variables in system design, the difficulty of testing them and assessing their significance, and the need to take them all into account when designing or choosing a system. This had seemed to lead some to the conclusion that it was of no value to carry out limited but quantitative tests such as those in the three papers mentioned. This view had been rebutted by Mr Cleverdon and by Mr Vickery himself who stressed that efficient design could only result from analysis of structural details so as to discover which of them contributed to the performance of each system function. It was essential to analyse each system into testable parts, to construct a series of model systems in which only one feature was varied at a time. That was the normal method of science.

A comparative survey of correlative systems—punched cards, uniterms, peek-a-boo—had been reported by Mr Jahoda during the discussion. He had said that such systems at present in use were small (most of them covering less than 20,000 documents) and relatively rarely consulted. An analysis of the types of question that such systems claimed to answer had led him to conclude that conventional indexing systems would have been adequate, and he urged the conference to look again at these. This plea was repeated once or twice during the discussions but the strongest interest seemed to be in machine methods.

In Area 6, said Mr Vickery, six theoretical papers had been presented. These attempted to generalize from the analysis of existing systems and, by exploring the potentialities and limitations of variations in design, to point the way to improved design. These had been, in his opinion, valuable contributions, but no discussion evaluating them had been attempted.

In the field of subject analysis for document description there had been two groups of papers. The first group had been concerned with various methods of analysing the terms used in indexing: D. J. Foskett had described facet analysis; two patent office workers, G. J. Koelewijn of the Netherlands and Charles G. Smith of the U.S.A., had given detailed techniques for encoding machine parts and operations for literature searching; Jean-Claude Gardin had discussed the encoding of shapes and other representations; and Mr Vickery himself had made some comparisons of the methods of subject analysis proposed by Ranganathan, Perry, Newman, Luhn, and others. The second group of papers in this field had concerned the analysis of natural language. These were at a fairly general level, without immediate application to retrieval. Mr Vickery said that, again, there had been no evaluation, in the conference discussion, of the actual results reported, though there had been recognition of the need in subject analysis for the introduction of relations between terms.

The theme which had occupied most time in the discussions had been that of 'relevance'—the need to design retrieval systems which were, and could be maintained, closely relevant to inquirers' needs. How to define and measure the relevance of a document to an inquiry, or of one document to another, had troubled some speakers. Mr Bar-Hillel had claimed that he could prove that any suggested measure, such as the occurrence of common terms or common references in two documents, was inadequate and that it was impossible to say whether one document would be more relevant than another to a future inquiry. In answer to this Mr Farradane and Mr Vickery had described how probable future relevance was built into any cross-referenced or classified index by the observation of past relevance. The problem was to find ways of making them more sensitive to changing relevance. A closer study of the questions put to a retrieval system had been advocated as a step towards this end. Two such studies, by Fred R. Whaley and by Saul Herner, had been reported to the conference.

Apart from the use of machines to sort encoded information there had been considerable emphasis, in discussion, on their use to operate on 'raw language text'. Mr Luhn urged that an index was only used to avoid the difficulty of scanning the complete collection of documents; machines would eventually be able to do this scanning quickly, and this should be the target. Mr Luhn's method was based on a frequency analysis of the words in a document. A similar frequency analysis of the words in an essay question would be compared with those of all documents in the system, and the closest matches would be retrieved. Mr Vickery said that a study of 'auto-abstracts' derived in this way suggested that such simple analysis was not the best measure of the meaning of a document.

The conference papers and discussion, Mr Vickery concluded, had been concerned with the advance guard of information retrieval theory, not with the day-to-day operations of the main forces, i.e. the makers and users of conventional catalogues and indexes. Some of the papers had provided valuable progress reports on the development of large-scale machine methods as well as theoretical contributions which might aid their future progress. The discussions had, on the whole, been too general and speculative and it had seemed that some speakers had little practical experience of indexing. In Area 7, Dr Clark of Wisconsin University had complained that the conference had ignored the most typical retrieval problem—that of the scientist working in a small establishment. His needs could be met by a simpler system, perhaps: (*a*) a master card file in the library, (*b*) duplicate cards for users, (*c*) provision of indexing terms with abstracts, and (*d*) the whole designed for easy conversion to small-scale machine sorting. Such methods had not been discussed.

In the large-scale machine-sorting field it was clear that all was still fluid, both as to the suitability and cost of various machines and as to subject coding. There was growing recognition of the importance of precise and flexible subject analysis and coding. Many new techniques of analysis were being tried, largely independent of each other. This independence—sometimes expressed quite aggressively—had been a disappointing feature of the conference. There had been little sense of a common operation, of positions being won from which further advances could be made by all, or of principles being established. The independence was illusory—analyses of the same type of subject matter for the same kinds of user must be similar if they were to be helpful, and results did in fact converge. Wider acceptance of these points was badly needed.

Mr Vickery ended by considering what lessons the conference discussions on information retrieval had for the organized documentation profession. Those who needed new systems, particularly the larger industrial and government establishments, would continue to develop them, aided no doubt by the manufacturers of machines. The main task of the documentation profession must be to evaluate users' needs, systems' performance and cost. It was gratifying that one of the few evaluative tests being conducted at present was the one being undertaken by Aslib at Cranfield. Further work of this nature should be seriously considered.

AREA 7. *Responsibilities of government, professional societies, universities, and industry, for improved information services and research.*

Papers

Responsibilities for scientific information in biology: proposal for financing a comprehensive system, by Milton O. Lee.

Responsibility for the development of scientific information as a national resource, by Hazel Mews.

Differences in international arrangements for financial support of information services, by N. F. Grell.

Training for activity in scientific documentation work, by George S. Bonn.

Training the scientific information officer, by A. B. Agard Evans and J. Farradane.

Training for scientific information work in Great Britain, by B. I. Palmer and D. J. Foskett.

The ICSU Abstracting Board: the story of a venture in international co-operation, by G. A. Boutry.

Creation of an international center of scientific information, by Paul Boquet.

An international institute for scientific information, by Waldo Chamberlin.

C. A. RONAN, The Royal Society secretariat, gave an account of Area 7. He said that the two British papers on training of information officers, and that by George S. Bonn had not been mentioned by the panel, but the subject was brought in later discussion by Dr Ranganathan and Mr Farradane.

During the panel discussion, Dr D. C. Martin, Assistant Secretary of the Royal Society, had stressed the important role of scientific societies as meeting grounds for scientists, as publishers of original scientific work, and as guardians of quality with the referee system. He had called for more emphasis on brief, clear, and concise papers and pointed out that original papers were basic bricks for information service. Concerning reviews, opinions expressed at the conference had favoured well-qualified authors and Dr Martin believed that support of reviews by societies would be valuable. A Royal Society Committee concerned with publication in chemistry had found that much use was made of title lists of papers and that it seemed likely that more use would be made of selected offprints. Financial independence of scientific societies was vital, but as their work was of great public and national value, public support for abstracting and indexing, for libraries and experimental work, should be forthcoming, perhaps by government support to selected societies. International co-operation could be obtained through the international bodies created by scientists, such as the International Council for Scientific Unions Abstracting Board, and, although results would not be immediate, co-operation would be secured.

Dr Clark, Assistant Director, Agricultural Experiment Station, Wisconsin University, had pointed out that the research worker and user of scientific information were identical and he believed that the working scientist was not represented enough at the conference. He had claimed that the scientist was the one indispensable person and his real needs must be taken care of. Such needs, he believed, were a good card index with master cards in the institution library, duplicates for use by scientists (and selected by them), index words in bold face in abstracts, and finance for machine sorting when this became necessary.

Sir Herbert Howard, Commonwealth Agricultural Bureaux, had spoken of the need for co-operation in abstracting and indexing. He had made an eloquent plea for specialized abstracts and he believed that government support was necessary. Scientific users must be the final judges of quality and international co-operation in abstracting was important. He believed that the ICSU Abstracting Board had done good work in physics and chemistry but that biology would present different problems, and he had suggested that, in the conference, biologists had been overshadowed by those whose work lay in the physical sciences.

W. O. Baker, Vice-president of Research, Bell Telephone Laboratories, had emphasized that it was the work of the fundamental scientists in industry which initiated some of the best reviews, books, and monographs. He believed that industry had an increasingly important part to play.

Dr Burton Adkinson, Head, Office of Scientific Information, National Science Foundation, had spoken of the importance of scientific information as a national resource which was used by government bodies and even produced by them. He supported the finance of information storage and retrieval as part of the finance of research, as suggested by Mr Lee in his paper. Government efforts *must* be carried out with the assistance of user and producer.

Dr G. E. Sunderlin, European Research Associates, Brussels, had supported national science libraries as information centres but did not favour international centres as such, and had stressed that control of any centre must be kept within the scientific community. An international unit as such would, he thought, be too expensive.

Dr D. J. Urquhart, Lending Library Unit, Department of Scientific and Industrial Research, had spoken of a comparison of Russian and English abstracts which appeared similar in their quality and quantity, with the Russians covering better 'foreign' periodicals. He believed that not enough foreign journals came to Britain and suggested closer co-operation.

Professor G. A. Boutry, ICSU Abstracting Board, had tried to assess the 'magnitude of the information problem' and had concluded that more than half the published information concerned biological sciences. He had stressed that abstracts could not be produced in a form suitable for everyone—there must be 'slanting'.

In the more general discussion which followed, there had appeared to be some difference of viewpoint as to the type of information required by scientists on fundamental research and those on applied research. There was a call for more detailed study of the problems of different fields in science and it seemed a general view that such piecemeal attacks must be made before the whole problem could be viewed. It also appeared that increased efforts of co-operation on a national scale would lead to international co-operation and was to be preferred to any attempt to establish international centres. M. de Grolier had gone so far as to call for another conference to discuss practical research projects in the information field.

The question of training information officers had been mentioned and Dr Ranganathan had differentiated between the librarian and information officer; in India both had similar training up to a certain level after which they specialized in their own particular fields. Mr Farradane had spoken of training in Great Britain and how this was symptomatic of the desire to put information services in their proper professional position.

In his opening address to the conference Sir Lindor Brown had made a plea for an attack on the problem of *quantity* by the scientist exercising self-restraint and publishing his results once only, and on the problem of *quality* by suggesting that only worthwhile information should be stored and retrieved. This would need close co-operation between scientists and information officers and, at the end of the conference, desire for such efforts had been echoed by others. It was to be hoped that action of this kind would take place and, although the conference reached no formal resolutions it did enable those interested in or concerned with scientific information to discuss their problems together, and outside the formal conference sessions some sound work was clearly carried on. Moreover, as some speakers stressed at the various sessions, personal contact is the richest source of information exchange.

Mr Ronan ended his remarks by showing colour and monochrome slides of the conference and some of the exhibits, including a print made on Kalvar heat-treatment film of a microfilm page, and concluded with echoing the remark of Dr Atwood, jr., Chairman of the Conference Organizing Committee, that 'it is better to travel hopefully than to have arrived'.

Letters to the Editor

Madam,

With reference to the comments of Mr F. C. Francis, in his Presidential address now published in *Aslib Proceedings* (vol. 10, no. 11, Nov. 1958, p. 268), on the distinctions, if any, between librarians and information officers, it may be of interest to record my impressions of the position in the United States. On the occasion of the recent International Conference on Scientific Information, at Washington, I had the pleasure of several discussions with professors in the library schools, and I am particularly indebted to Prof. George Bonn, of Rutgers University.

In the past five years (since I last discussed matters with some American librarians) it is clear that syllabuses in schools of librarianship in the United States have been expanded to cover such subjects as abstracting, retrieval and dissemination of information, etc., to an encouraging extent. The profession is very largely a graduate profession (even though the term 'graduate' cannot always be read as equivalent to graduate of a British university), and there is a wide range of alternative subjects which can be taken, over and above the central core of library training. Several schools give special librarianship courses specifically identified with science and technology, science documentation, etc., and some include machine literature searching, language engineering, and similar subject headings. Science or other graduates frequently proceed to librarianship or students may take mixed courses. In addition to these organizations, there is the American Documentation Institute, with its own committee on education, and other groups more closely identified with science.

Of importance in America, however, is the growing body of subject specialists who are not necessarily trained as librarians, but are undertaking various kinds of information work, such as indexing for *Chemical Abstracts*, and work in the Research Information Service of the John Crerar Library in Chicago, the Information Management Division of the Battelle Memorial Institute, etc. Such scientists may be known by titles such as 'literature chemist', etc. The point of interest is that such information workers are accepted as a necessary and distinct part of the field of information work, and there is no jealousy between them and librarians.

The position in England has not developed so harmoniously. This may partly be due to the fact that librarianship in England is only to a relatively small extent a graduate profession. In the Aslib–L.A. discussions, where progressive and able special librarians were present, I thought at one time that we had reached satisfactory agreement on a broad syllabus incorporating alternatives for those more concerned with public librarianship, or information work, or other specializations, but these proposals were turned down by other committees of the Library Association. The rift thus inevitably widened. I would agree that there is a broad spectrum of work from library custodianship to information work not based on one library, with persons undertaking work at all stages in between; even in work in England, however, the differences between the two ends of the scale are very great and cannot be covered by a single syllabus.

The Washington Conference impressed me with the further realization that our viewpoint in England is still far too limited. The immense advances in the development of computers and other machines with almost unlimited potential applications for information work have been too long neglected in England. Education for information work will have to include some teaching on the theory of information searching and retrieval, and the possible uses of such machines. There is also a broadening field of other disciplines which may bear on the problems; linguistics, semantics, psychology and logic are being brought into the picture, and no doubt other disciplines also will provide essential contributions to the studies. The papers presented to the conference clearly indicate this very wide and increasing range of knowledge concerned in the scope of information work. This evidence overwhelmingly demonstrates the impossibility of contending that librarianship and information work are one discipline. It may not even be possible to keep them down for long to two disciplines, since information work has not only become a profession, but is also rapidly developing into a new science.

Yours faithfully,
J. Farradane,

'Torran', Crofton Road, Orpington, Kent.

28th November 1958.

SELECTIONS FROM THE RECENT LITERATURE

Books and Pamphlets

ALVAREZ BRENES, M.
Clasificacion de libros. 2nd ed. rev. San José, Universidad de Costa Rica, Departamento de Publicaciones, 1956. 93 pp.

BANISTER, M.
Pictorial manual of bookbinding. N. York, The Ronald Press Company, 1958. v, 40 pp., illus., photos., diagrs. $3.75.

BRITISH COUNCIL
Scientific and learned societies of Great Britain. A handbook compiled from official sources. 59th ed. London, George Allen & Unwin, 1958. 215 pp. 35*s.*

BRITISH PRODUCTIVITY COUNCIL. North London Productivity Committee
Work study—the universal tool: conference held on 15th May, 1958. Enfield, Mddx., the Committee, 1958. 56 pp. tables. diagrs. mimeographed. 21*s.*

BUCKLES, R. A.
Ideas, inventions, and patents: how to develop and protect them. N.Y., Wiley; London, Chapman & Hall, 1957. xv, 270 pp. illus. facsims. diagrs. $6; 48*s.*

BUSINESS ARCHIVES COUNCIL
Indexed sources for business history in London libraries and museums. London, the Council, [1958]. 9 pp. mimeographed.

COPLAN, K.
Effective library exhibits: how to prepare and promote good displays. N.Y., Oceana, 1958. xvii, 20–127 pp. front. illus. plates. diagrs. $4.50.

*FÉDÉRATION INTERNATIONALE DE DOCUMENTATION
Yearbook, 1958: organization, members, committees, publications. The Hague, the Federation, 1958. 52 pp.

GILL, R. S.
The author publisher printer complex. 3rd ed. Baltimore, Williams & Wilkins; London, Baillère, Tindall and Cox, 1958. xi, 134 pp. illus. plates. diagrs. 18*s.*

GROSVENOR, CHATER & CO. LTD
A specimen book of papers produced at Abbey Mills, Holywell in Flintshire, North Wales, with selected examples of printing by various processes. London, Grosvenor Chater, 1958. [199] pp. facsims.

*HABERKAMP, G.
Deutsch-französische Bibliographie; unter Mitwirkung von Günther Haensch und Robert Möller. München, Isar Verlag, 1958. 123 pp. (Die Fremdsprachen in der Praxis, Reihe A/ Band 2.)

INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY
Nomenclature of organic chemistry. July 1957. London, Butterworths Scientific Publications, 1958. v, 92 pp., diagrs.

LEWIS, A. W.
Basic bookbinding. N.Y., Dover Publications, 1957. x, 144 pp. front. illus. plates. diagrs. $1.35.
[Originally published by B. T. Batsford in 1952, reissued with additional notes for American users.]

LIBRARY ASSOCIATION
Memorandum on library services in the Greater London area submitted to the Royal Commission on Local Government in Greater London. London, the Association, 1958. 8 pp. 1*s.* 6*d.*

LIBRARY ASSOCIATION. London and Home Counties Branch
Libraries and the book world; papers read at the Week-end Conference... held at Hastings, 6th–8th June, 1958. Gillingham, the Branch, 1958. 65 pp. 7*s.* 6*d.*

LONDON. UNIVERSITY. University College. Communications Research Centre
Aspects of translation. London, Secker and Warburg, 1958. viii, 145 pp. [Studies in Communication 2.] 25*s.*

MCCORKLE, R. M., *and* DINGUS, S. D.
Rapid reading with self-teaching exercises. Iowa, Littlefield, Adams & Co., 1958. [8], 135 pp. $1.25.

MCLEAN, R.
Modern book design: from William Morris to the present day. London, Faber and Faber, 1958. xii, 116 pp., illus. 15*s.*

MALCLÈS, L–N.
Les sources du travail bibliographiques, tome 3. Bibliographies spécialisées (sciences exactes et techniques) . . . Genève, Librairie E. Droz, 1958. x, 575, 28 pp.

PROVINCIAL GUILD OF PRINTERS' READERS
A handbook for printers' readers. Earley Berks, the Guild, 1958. 2*s.* 6*d.*

RANGANATHAN, S. R.
Library personality and library bill: West Bengal. Calcutta, Bengal Library Association, 1958. 74, ii pp.

REMINGTON RAND
The businessman's guide to photocopying: a booklet for businessmen who like inside stories. London, Remington Rand, 1958. 9 pp., illus. gr.

*ROSKILL, O. W.
Who owns whom; a directory of the subsidiaries and associates of Public Companies

in industry and commerce. London, Roskill, 1958. ii, 207 pp. 84*s.*

RUSSELL, H. G., *and others.*
The use of books and libraries, by Harold G. Russell, Raymond H. Shove, and Blanche E. Moen. 9th ed. Minneapolis, University of Minnesota Press, 1958. v, 93 pp. $1.75.

SHEPHERD, E. G.
Typography for students. London, Macdonald & Evans, 1958. xiii, 224 pp., illus., diagrs. 15*s.*

STANFORD, G. H.
The conduct of meetings. Toronto, Oxford University Press, 1958. [6], 88 pp. 12*s.* 6*d.*

TURANSKI, W. J.
Basic concepts of information retrieval, part 1. Philadelphia, Remington Rand Univac, 1957. 9 pp. (Univac Data Automation Systems).

*UNION OF INTERNATIONAL ASSOCIATIONS
Yearbook of international organizations, 1958–1959. Brussels, the Union, 1958. 1269 pp. 78*s.*

*U.S. LIBRARY OF CONGRESS
Russian–English glossary of guided missile rocket and satellite terms, compiled by Alexander Rosenberg. Washington, Reference Department Library of Congress, 1958. vi, 351 pp. $2.50.

VANCE, L. E.
Illustration index. N.Y., Scarecrow Press, 1957. 192 pp. $4.

Articles and Papers

ALLDREDGE, E. O.
Archival training in a record centre. *American Archivist*, vol. 23, no. 4, October 1958, pp. 401-7.

ASHBURNER, E. H.
The design of library buildings. *Library World*, vol. 60, no. 701, November 1958, pp. 63–5.

BUCHANAN, M. B.
Developing a library relations program. *Library Trends*, vol. 7, no. 2, October 1958, pp. 253–8.

BUTTRESS, F. A., *and* HUGHES, G.
Abbreviations, supplement no. 1. *Quarterly Bulletin of the International Association of Agricultural Librarians and Documentalists*, vol. 3, no. 4, October 1958, pp. 192–6.

CALLANDER, T. E.
Photo-punch charging. *Library Association Record*, vol. 60, no. 11, November 1958, pp. 337–8.

CASWELL, J. E.
Archives for tomorrow's historians. *American Archivist*, vol. 23, no. 4, October 1958, pp. 409–17.

DEALE, H. V.
Public relations of academic libraries. *Library Trends*, vol. 7, no. 2, October 1958, pp. 269–77.

DEWEY, H.
The National Union List of Serials: weaknesses and a proposal. *Library Resources and Technical Services*, vol. 2, no. 4, Fall 1958, pp. 225–38.

EATWELL, R. F.
Some problems of technical college libraries. *Library World*, vol. 60, no. 701, November 1958, pp. 65–7.

GROSSER, D.
The divided catalog: a summary of the literature, *Library Resources and Technical Services*, vol. 2, no. 4, Fall 1958, pp. 238–252.

HARLEY, J.
A defence of the book against its contemporary rivals. *Library Association Record*, vol. 60, no. 11, November 1958, pp. 330–3. (Library Association Prize Essay, 1958.)

HARWELL, R. B.
Public relations in librarianship. *Library Trends*, vol. 7, no. 2, October 1958, pp. 248–52.

HUMPHREYS, K. W.
Aspects of library provision for undergraduates. *Library Association Record*, vol. 60, no. 10, November 1958, pp. 306–10.

INTERNATIONAL COMMITTEE FOR SOCIAL SCIENCES DOCUMENTATION
Selected documentation for the study of race relations; comp. by Jean Viet. Paris, Unesco; [London, H.M.S.O.], 1958. 81 pp. (Reports and papers in the social sciences.) 5*s.*: 300*fr.*

IRWIN, R.
Presidential address. *Library Association Record*, vol. 66, no. 10, October 1958, pp. 299–305.

LEIGH, R. D.
Work-study and the trainee program. *Wilson Library Bulletin*, vol. 33, no. 3, November 1958, pp. 219–22.

PINTO, O.
Le bibliografie nazionali. Aggiornamente ed aggiunte per il quinquennio 1950–1955. Firenze, Olschki, 1957. 54 pp.

POWER, E.
O–P books; a library breakthrough. *American Documentation*, vol. 9, no. 4, October 1958, pp. 273–6.

REES, J., *and* KENT, A.
Mechanised searching experiments using the WRU searching selector: preliminary report. *American Documentation*, vol. 9, no. 4, October 1958, pp. 277–303.

ROJNIC, M.
Bibliotekarstvo in nauka (Librarianship and science). *Vjesnik Bibliotekara Hrvatske*, vol. 4, no. 1–4, 1955–57, pp. 37–74. [In Croat with English summary.]

SIMPSON, D. J.
The role of the library in an increasingly technical world. *Library Association Record*,

vol. 60, no. 11, November 1958, pp. 327–30. (Library Association Prize Essay, 1958.)

SKIPPER, J. E.
The continuing program of book selection and acquisition. *Library Resources and Technical Services*, vol. 2, no. 4, Fall 1958, pp. 265–71.

SPOORE, J. D.
A library of architecture and building: a guide for establishing personal, office and company libraries, and developing the collections of small and medium sized public and college libraries. Troy, N.Y. Rensselaer Polytechnic Institute, 1958. 20 pp. $1.

STRIEBY, I. M.
Public relations activities of special libraries. *Library Trends*, vol. 7, no. 2, October 1958, pp. 290–7.

THOMAS, J. D.
Photographic archives. *American Archivist*, vol. 23, no. 4, October 1958, pp. 419–24.

UNITED NATIONS EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION
The part played by state libraries in the U.S.S.R. in the bibliographical work of the country, by F. S. Abrikosova. Paris, Unesco, 1958. 9 pp. (Unesco Symposium on National Libraries in Europe.) *

VOGT, H.
Einige Bemerkungen zur Analyse und Steuerung des Geschäftsganges in Grossbibliotheken. *Zentralblatt für Bibliothekswesen*, vol. 72, no. 1, 1958, pp. 22–32.

WALLACE, S. L.
Public relations of the public library. *Library Trends*, vol. 7, no. 2, October 1958, pp. 259–68.

WILLISON, I. R.
Towards a general theory of historical bibliography. *North-Western Polytechnic School of Librarianship Occasional Papers*, no. 11, August 1958, 7 pp.

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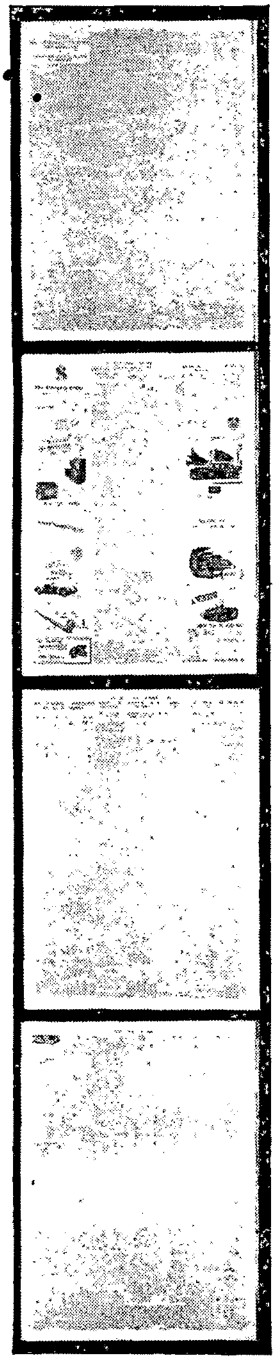

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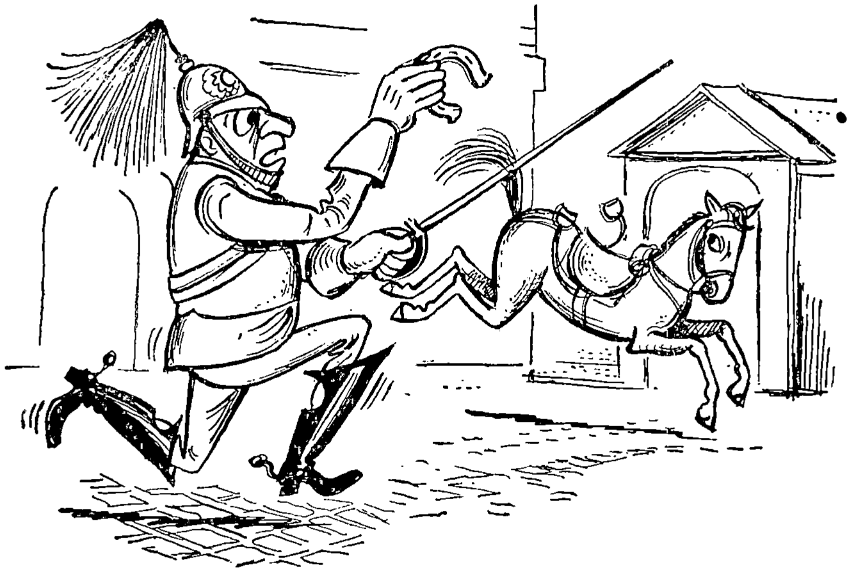

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Volume 11 **March 1959** **Number 3**

ASLIB CALENDAR

MARCH

WEDNESDAY 25th. Midlands Branch Annual General Meeting.

APRIL

FRIDAY 3rd–SUNDAY 5th. Aeronautical Group Annual Conference. See paragraph below.

MONDAY 6th. Advanced course on classification and indexing commences.

FRIDAY 10th. Fuel and Power Group visit.
Textile Group Annual General Meeting.

THURSDAY 16th. Winter meeting.

MAY

FRIDAY 8th. Conference on presentation of technical information.

THURSDAY 14th. Engineering Group visit.

JUNE

FRIDAY 26th. Annual General Meeting. See paragraph below.

OCTOBER

MONDAY 5th–WEDNESDAY 7th. Annual Conference at the Grand Hotel, Scarborough.

MONDAY 19th. Engineering Group visit.

Annual General Meeting

The Annual General Meeting of Aslib will be held at 3 p.m. on Friday 26th June 1959 in the Council Room, 3 Belgrave Square, London, S.W.1.

Conference on the Presentation and Interpretation of Technical Information

The Conference on Friday 8th May, mentioned in the last issue of *Aslib Proceedings* (vol. 11, no. 2, p. 32), will be opened by the Rt. Hon. Lord Crook, J.P., Chairman of the Dock Labour Board and President of the British Association of Industrial Editors, who will preside over the morning session. Mr F. B. Roberts, Editor, *Engineering*, will take the chair in the afternoon. Papers will be given by both users and producers of technical information. Mr J. W. Godfrey, retiring Editor, Technical Instructions, BBC, and Mrs A. B. Robertson, Assistant Editor, *The Times Review of Industry*, will speak on the problems of technical writing and technical editing; Mr Edgar Anstey, Films Officer, British Transport Films, on the choice of medium for communication of technical information, dealing specially with presentation by non-print media; and Major Horace R. Hockley, Technical Designs Ltd, Chairman of the Moderating Committee of the City & Guilds Institute, on technical writing as a career, producing the personnel, and their place in industry. There will be general discussion after each paper and Mr Roberts will sum up. The fee, including luncheon, will be 30*s.* to members, with a surcharge of one guinea for non-members. Admission by ticket only.

Information Department and Library Publications

Aslib is arranging a one-day course on the compilation and production of library bulletins and similar publications (see separate notice with this issue). Part of the course will be a session for the critical analysis by the lecturers and students of several typical publications. Members are invited to send in specimen copies of any (or all) of their library publications for inclusion in this analysis. Please mark clearly 'Specimen copies: short Course'.

Northern Branch

A meeting was held on 9th February at Newcastle upon Tyne. Mr Harold Thorne, a director of Thorne's Students Bookshop, Newcastle upon Tyne, speaking on 'Some problems of bookselling today', gave a lively account of the difficulties of a modern bookseller and elicited some sympathy from librarians, who are more familiar with the problems of the buyer.

Scottish Branch

The Annual General Meeting of the Branch was held on 6th February in Glasgow. After the general business had been completed, the morning session was devoted to aspects of patents. Mr Felix Liebesny, B.SC., A.L.A., Intelligence Department, British Aluminium Co. Ltd, speaking on 'Patents as sources of information', explained some of their uses and pointed out that a patent was often the sole source of fully descriptive information on its subject. Mr Christopher Yate Johnson, F.R.S.A., Past President of the Royal Scottish Society of Arts, illustrated his talk on 'Trade marks: their history, development, and protection' with a number of lantern slides. He stressed the need for registering industrial designs. The two papers given in the afternoon were concerned with industrial co-operation. Professor Christopher Macrae, C.B.E., D.PHIL., Professor of Industrial Administration, Royal College of Science and Technology, Glasgow, gave an account of the objects and achievements of the Technical Liaison Service of the Scottish Council (Development and Industry), advocating personal approach as the best method of obtaining co-operation. Mr E. R.

Martindale, D.S.I.R. Scottish Office, described the work of the Scottish Research Laboratories Mutual Assistance Scheme, which keeps a record of important research facilities and acts as an information link between research laboratories.

Aeronautical Group

The eighth Annual Conference of the Group will be held from Friday 3rd to Sunday 5th April at the College of Aeronautics, Cranfield. 'The place of the library in a guided missile organization' will be the subject of papers to be given by Mr J. E. Allen and Mr R. A. Wall of the Weapons Division, A. V. Roe & Co. Ltd, speaking as user and librarian respectively. Mr R. C. Wright, Chief Librarian, Royal Aircraft Establishment, Farnborough, will speak about his recent visit to United States and Canadian libraries, and Mr R. A. Fairthorne, B.SC., also of the Royal Aircraft Establishment, will give his impressions of the International Conference on Scientific Information held in Washington in November 1958. Part of the conference will be devoted to the study of a paper produced by the Group Committee which reviews the present state of information services in the aircraft and guided weapon industry, points out the defects and shortcomings, and recommends methods of overcoming them. The Annual General Meeting of the Group will be held during the conference on the morning of Saturday 4th April. The conference fee will be £5 10*s*. For further information please write to T. M. Aitchison, Librarian, English Electric Co. Ltd, The Airport, Luton, Beds.

Economics Group

The second edition of the Economics Group *Union List of Periodicals* was published in January. It contains more than 2000 titles in the fields of economics, finance, statistics, textiles, etc. This edition also includes a selection of titles of periodicals held at the British Library of Political and Economic Science and at the Royal Statistical Society Library. Copies of the list may be obtained from either the Hon. Treasurer, A. H. Smith, Swiss Bank Corporation, 99 Gresham Street, London, E.C.2, or the Hon. Secretary, J. A. Allder, Unilever Ltd, Economics and Statistics Department, Unilever House, Blackfriars, London, E.C.4. Price 10*s*. to members of Aslib.

Electronics Group

The Group's *Handlist of Reference Material for librarians and information officers in electrical and electronic engineering* was completed in January. It may be obtained, price 5*s*., from B. J. Driscoll, Decca Radar Ltd, Radar Research Laboratories, Hersham Trading Estate, Molesey Road, Walton-on-Thames, Surrey.

Aslib Patents Sub-Committee

During 1958 there have been no arrears in the printing of abridgements. A sequence of specifications, ending with no. 800,000, was completed in the third quarter of the year and copy for the related indexes is now with the printer. Indexes for the preceding sequence (ended with no. 780,000) are expected to be available shortly. The arrears of Patent Office printing are now almost absorbed.

S. T. Cope

Members will have heard with regret of the sudden death, on 31st January, of Mr S. T. Cope, Technical Librarian, Baddow Research Laboratories, Marconi's Wireless Telegraph Company Ltd. Mr Cope has been the Aslib representative of Marconi's for the past seven years and has taken an active part in the work of the Electronics Group. Correspondence concerning the Electronics Group working party mentioned in the December 1958 issue (vol. 10, no. 12, p. 329) of *Aslib Proceedings* should now be addressed to the Hon. Secretary of the Group, N. E. C. Isotta, Ministry of Supply, T.I.L.2, Room 008A, First Avenue House, High Holborn, London, W.C.1.

Chemical literature

The 135th meeting of the American Chemical Society will be held in Boston, Massachusetts, from 5th to 10th April. 'Machine translation' and 'The language problem in chemical literature' will be the subjects for discussion by the Chemical Literature Division. The symposium on machine translation will include papers on the code-matching system, chemical language coding for machine searching, encoding of abstracts for automatic selection, and other special procedures. The symposium on the language problem in chemical literature will include papers on fifty foreign languages, the teaching of scientific Russian by television, and an experiment in Interlingua. Papers in other areas of interest to literature chemists, such as patents, chemical notation systems, and the organization of technical writing, will also form part of the programme.

Advanced Course on Classification and Indexing

The course announced in the January issue (vol. 11, no. 1, p. 2) will commence with a general survey of methods of information retrieval and the fundamentals of subject analysis. Successive lectures will deal with classification systems (enumerative, semi-enumerative, and analytico-synthetic or faceted); faceted classification, construction of schedules and notation (three lectures); alphabetical indexes to classification systems; and two lectures on other indexing systems. Members are reminded that application for the course or for individual lectures should be made immediately as numbers are strictly limited.

THE APPLICATION OF INFORMATION TO THE FURNITURE INDUSTRY

J. WARDLEY SMITH, B.SC.
Department of Scientific and Industrial Research

Joint Furniture and Textile Group meeting, 14th October 1958

Introduction

THIS lecture discusses that part of the work of the Furniture Development Council which deals with the dissemination of technical information to the industry. It outlines the structure of the industry, and examines the peculiar difficulties which this produces. The methods employed are described and commented upon.

Before discussing the subject in detail it is necessary to consider the mechanism which has been set up to provide the furniture industry with information and also to consider the structure and characteristics of the industry.

History

The Board of Trade Working Party on the Furniture Industry reported in August 1946. In its report was a recommendation to set up a government-aided Research Association, one of whose functions would be to 'extract and circulate from material published at home and abroad research matters of interest to the industry'.

The Furniture Development Council was set up by Order in Council on 1st January 1949. It is financed by a levy based on the turnover of the firms in the industry, subject to a limit of £75,000 in any three years; this limit was amended by an Order in 1958 which raised it to £30,000 in any year. The amount collected has varied and is shown in Table 1.

At the same time the research function of the Council has attracted a grant from the DSIR. In the last few years small sums have also been obtained from firms in allied industries, or industries which serve or provide for the furniture industry, and in part from additional subscriptions from the furniture industry itself. It will be realized that only a small part of the total given in the last column of Table 1 is available for spending on information services.

The industry

Furniture making was fundamentally a craft industry; it developed in the form of relatively small units, consisting of a master man working himself with the help of a few craftsmen and apprentices. In some cases the great designers were craftsmen too. There was an increased use of machinery as the need for furniture grew with the industrial revolution in the nineteenth century. The manufacturing units tended to become larger, but many small ones still remain.

The sizes of firms in the industry expressed as a function of turnover is given in Table 2. It will be seen that the largest number is in the £10,000–£49,900 turnover group. The size of firm expressed as a function of the number employed does not give quite the same picture. In 1952, the last year for which the figure is available, 56.8 per cent of the firms were employing one to ten people. This number will have decreased but is probably still nearly half.

Table 3 highlights the problem of disseminating information through *all* the industry.

The policy of the FDC on information

'One of the aims of the Council is to assist manufacturers with particular reference to small and medium sized firms through the provision of technical information which will help to raise the standard of efficiency.' This is a statement from the Second Annual Report of the Furniture Development Council, so that it is not surprising that the Technical Information Service was started in October 1950.

The library

The basic tool of the information officer is the library, so the first task was to accumulate a suitable one which of course has not been easy. Now the library has some 2,000 volumes, regularly receives 260 different periodicals and has a card index of articles of interest, pamphlets, catalogues, etc., of some 40,000 items.

Everything is catalogued under author and subject, the U.D. classification is used with the Oxford Forestry and Domestic expansions.

Staff

There has been a steady increase in staff, and at times all the research staff have to deal with technical inquiries. The present Technical Information Service staff is:

One Information Officer
One Assistant
One Librarian
One Assistant Librarian
Three Clerical

The flow of information

So far I have dealt with the background of the industry, and with the organization of the FDC which was, as it were, forced on the industry. I must now consider the channels which have been set up to direct the information to the industry.

There are seven sources of information which a firm can use; three of these are regular publications which are obtained, by members (levy payers), on request, these are:

1. The *FDC Bulletin*, which summarizes and abstracts publications of all kinds and has special articles;
2. The *FDC News Letter*, similar to 1 but with less detail and much less formal;
3. The Library Acquisitions List;

The other four sources are obtained by special request.

4. F.D.C. Research Reports (these are summarized in 1 and 2);
5. F.D.C. Research Notes (these are summarized in 1 and 2);
6. F.D.C. Information Reports;
7. Specific questions asked by letter or telephone.

TABLE 1. INCOME OF THE FDC (*expressed in thousands of pounds*)

Year	*Levy*	DSIR	*Other*	*Total*
1949	18			18
1950	19	3		22
1951	25.6	6		31.6
1952	26.8	6		32.8
1953	23.5	8		31.5
1954	20.7	8	4	32.7
1955	19.8	6.8	4.6	31.2
1956	19.3	8.3	12	39.3
1957	23.6	10	11.2	44.8

Source: FDC *Annual Reports*

TABLE 2
SIZE OF FIRMS BY TURNOVER
(*Year* 1955)

Turnover £000	*No. of firms*	*Percentage*
Under 1.0	329	14.9
1.0–9.9	620	28.0
10–49.9	628	28.3
50–99.9	272	12.3
100–499	323	14.6
Over 500	44	2.0
	2216	100

Source: FDC *Statistical Review* 1956

TABLE 3. SIZE OF FIRM
BY NUMBER OF OPERATIVES
(*Year* 1955)

Number of operatives (*last quarter*)	*Percentage firms**
11–24	33.4
25–49	27.9
50–99	21.4
100–199	10.8
200 and over	6.5

**Excluding firms with* 1–10 *operatives.*
Source: FDC *Statistical Review* 1956

TABLE 4. USE OF THE TECHNICAL INFORMATION SERVICE

Year	*Inquiries*		*Library loans*	*Firms receiving Bulletin*
	No.	*No. of firms*		
1951	168	82	—	—
1952	266	149	270	—
1953	412	182	408	359
1954	408	177	339	378
1955	582	201	636	569
1956	638	246	1042	591
1957	647	237	650	585

Source: FDC *Annual Reports*

There are four *Bulletins* and three *News Letters* each year, the Acquisition list is monthly and the others are issued as the work is done.

Up to the end of 1957, six Research reports, eleven Research Notes and fourteen Information Reports, with a number of other publications such as Reports of Conferences and special economic surveys had been issued.

The demand for information

There has been a steady growth in the circulation of the regular publications and in the specific inquiries as shown in Table 4.

Research

The results of the original research carried out by the FDC, which is rapidly growing both in volume and quality and in value to the industry, is published in Reports or Notes. These are described in both the *Bulletin* and *News Letter* and in many cases the information is also the subject of a special Press Note for the Trade and Technical Press. The same Report is usually referred to in several places. The circulation depends on many factors; for example No. 6 *Theoretical and experimental analysis of cabinet structures*, a fairly recent one, has had almost a negligible distribution in the industry, whereas A4 *Chipboard* has had a distribution of over a hundred copies to the industry.

Individual replies

It is in this field that it is felt that we can best judge the impact made by the FDC on the industry. Every effort is, I know, made by the staff to give rapid, accurate, and easily understood replies to all questions. In many cases the reply can be given by reference to published articles, and in other cases to Research Papers of the FDC. Sometimes, if an inquiry is likely to be of interest to a number of firms, actual *ad hoc* research is undertaken. If the questioner cares to pay the result may be kept confidential.

Personal contacts

The most satisfactory way of spreading information is, of course, by personal contact. With this in mind members of the Research and Information Staff of the Council make visits to many member firms, only sometimes by invitation. Manufacturers are urged to visit the laboratory and library and group visits are arranged by regional committees of the British Furniture Makers Association. Courses and lectures on many topics are arranged, both at provincial centres and at the laboratories. Many of these deal with non-research topics such as 'Costing' but opportunity is usually taken to introduce one lecture on the work of the Research section, and invitations are issued to visit the laboratories or to write in for information.

Visits abroad

An extension of the idea of visiting members' factories is to collect a group of members and take them somewhere; the organization of Study Groups abroad has proved to be quite successful. These usually consist of a visit to a large industrial exhibition such as the Hanover Fair which is combined with organized visits to furniture factories and the works of machinery manufacturers. The group consists of perhaps thirty accompanied by two or three FDC staff.

Group discussion takes place in the evenings and the fact of being away from home enables the FDC officers to establish very friendly relations with senior staff or principals of the manufacturers.

The general problem

Despite all the efforts which have been described above there is still a very large number of small firms with which no contacts have been made. In fact probably two-thirds of the firms are not reached. This is not quite as bad as it looks. For instance, from the figures in Table 4, it has been worked out that 614 separate firms obtained some sort of information from the FDC which is 30 per cent of the registered firms. The FDC have also given figures for the percentage of turnover done by the firms in the groups given in Table 2. This shows that in 1955, firms with an individual turnover exceeding £100,000 accounted for a total of 77 per cent of the industry's turnover, but there are only 367 firms in this group. It is likely, therefore, that the larger firms are all included in the 614 and are all benefiting from the work of the FDC.

To increase the impact of the FDC on the industry without an altogether disportionate increase in cost is probably impossible. To reach a small firm effectively depends on many factors such as the type of firm, the type of man running it, can he read, i.e. comprehend, a technical article, has he time to do so? Is he politically opposed to the compulsory levy?

Conclusion

The work of the FDC represents an attempt to bring information on scientific matters to an industry which has only advanced in part from a craft. It has been reasonably successful, and it reaches firms which produce perhaps four-fifths of all the furniture though it does not reach the two-thirds of the firms, who produce one-fifth of all the furniture. It is a very slow process to proceed much further, and is a matter of education of the owners and managers of the small firms. The industry is still changing, firms are still being eliminated by economic pressure and there is no doubt that the ultimate survivors will be those who use to the best advantage the technical and scientific advances which are constantly being made.

I must express my thanks to the Heads of the Information Service and of the Research Department of the Furniture Development Council for their help in preparing this lecture.

THE TRANSLATING INDUSTRY

RHYS MATTHEWS

Central Electricity Generating Board

Engineering Group, Electrical Translators Section, London, 15th December 1958

THE origins and growth of any industry can be traced to a number of major impelling forces. In the case of any given industry, therefore, it may be possible to throw some light on probable future developments by studying the history of its evolution from its origins right up to the present time. By this means, some assessment may be achieved as to the future requirements of the industry and as to what policy should be supported in order to meet these requirements in the best way. In particular, it may be possible to discern specific trends and to foresee the speed at which these should come to maturity, what obstacles may be encountered, and how best to prepare for such difficulties in advance.

One factor in the high rate of all modern-day development—not only in the field of translation—is the progressive acceleration in communications and communication techniques. More people are coming into contact with more and more people—and likewise their works, and the resulting development is speeded up. Science is fanning out—both in content and geographically. What is one subject or specialization today will be a dozen subjects or a dozen specializations tomorrow. Where we have one scientist today we shall have many more tomorrow.

So we come on to the scientist industry, which seems to be an expanding one. In passing I should say that the term scientist as used in this context covers a wide range of meanings, including development engineers and many others.

By the nature of their basic common denominator—which is the pursuit of science—scientists must be in intercommunication, particularly within their own specialist group, but also with their fringe groups, their fringe-of-fringe groups—and so on. Now if all scientists were to speak and write in the one language, the present problem and the future prospect would be tough enough. I should estimate that the efficiency of communication between scientists speaking the one tongue is even now fairly low, when we compare the actual with the ideal. The fact that science speaks in divers tongues is only an added impediment, but a specially serious one, as it could, in the extreme case, partition off scientific experience into self-contained geographical boxes, despite all the man-made aids to intercommunication. Fortunately, such a condition of perfect hermetic sealing could scarcely ever exist even under the worst conditions. Leaks, both forced and fortuitous, would be bound to occur.

The origins of a translating industry date to a speculative past. It is known that at one period scientists largely solved the translation problem by writing their papers in a common 'dead' language. It is possible that this practice was killed as science became vested with the new magic quality—money making—endowing it with a new urgency, to be excelled only later with the advent of its wonderful killing capabilities. Confronted with such exciting prospects, no time remained to persevere with Latin. Each henceforth wrote in his own tongue, and lo!—the scratch of the translator's quill heralded the dawn of the new industry.

Now, scientific investigation before the present century was largely a one-man band arrangement on make-do-and-mend lines, and the scientist did all or nearly all his own sawing and filing and odd jobs, perhaps with an assistant, paid or unpaid. It is likely, therefore, that if he wanted to read a paper which was in a foreign language he would add a grammar and a dictionary to his collection of tools.

As the scope and magnitude of research projects increased to factory proportions, teams of fitters, carpenters, bricklayers and the like, together with well-equipped workshops, were put at his disposal. The saw and the file were no longer his personal stock-in-trade, and it is doubtful whether he could now lay hands on a pen-knife in an emergency. The grammar and the dictionary, however, remained, long after the rest had gone—like some left-over guest, for which no provision had been made.

Whilst this is still roughly the position today in many fields of industry, there have been signs over the past two or three decades of an awareness in some quarters of the need for modest translation facilities grudgingly conceded at times.

Where such provision was made, it can be assumed that a few chinks were made in the language curtain and valuable bits of experience percolated through. During the early stages of this transition period—and indeed earlier—there began to appear what is now taken as an essential tool of translation, that is to say, the specialist dictionary, fashioned around the terminology of a particular science. The subject range was usually very wide—under some broad title such as 'technical dictionary', when the degree of precision was restricted by the broad range of the definitions. However, this would not be such an impediment in the younger days of science and technology, when specializations were few and the terminology was less developed. In due course some very good multilingual dictionaries were published, each dealing with a specific industry, and it is a startling thought that some of these, which could be bought in the days before the wireless receiver reached the shops, are still in vogue.

Since that time the position has improved as regards range and degree of specialization of technical dictionaries, and whilst numerous subjects still occupy a bleak position in some or all languages, some good efforts have been made. Largely on account of the enormous number of specializations today, each with its individual translation of a foreign term meaning several things in other contexts, and on account of the large number of languages in use, the translator frequently finds himself somewhat in the position of a watchmaker, stranded with only a hammer and chisel and a precision job in hand.

So, alongside the growth of industry and science, the work of translation has gone on through the years, in varying degrees and in various manners, with and without tools, either by scientist-cum-dictionary or scientist-cum-bilingual assistant. The bilingual scientist would of course be well placed, but experience seems to indicate that the scientist must usually choose between the pursuit of science and the pursuit of linguistics. In any case he could scarcely be expected to possess more than a couple of foreign languages even under exceptionally favourable circumstances, and his range would thus still be restricted to a few languages among the many.

In order to come up closer to the concept of a translating industry we have to step into the present day, to assess the probability of such a term being fairly applied at any time, past, present or future, to this undoubtedly substantial and growing activity.

The first thing that arises is that a statistical assessment of quantities involved represents a difficult task.

In the first place, a very large proportion of translation work never emerges from the originating organization. This of course goes without saying in the case of translations from unpublished material.

There is a second category of material, namely translations from published material, when the translations themselves are not intended in turn for publication, but are merely intended to satisfy the needs of one organization. At this point there is a wide divergence in the degree of utilization. Some organizations, on policy, maintain varying degrees of secrecy over their possession of translations, others are interested in the mutual utilization of translations, either through notification of translations to a central index or through the issue of titles to associated bodies.

These two categories of translations, which we might term as private translations of private documents and private translations of published documents, represent a formidable output of translation effort even if we confine ourselves to specific industries and specific languages. On a universal scale, and taking in the whole range of languages from which and into which the work is proceeding, an analysis would require computer treatment.

All the signs seem to indicate that the mass is growing steadily from year to year.

However, industries do not emerge as the result of gradual growths from small beginnings. If we are to study the question from the standpoint of an industrial development we have to put behind us the mass of accumulated history which forms the background of these first two categories—i.e. private translations for relatively private use—and look for the 'leap' or surge forward in development which might be linked, by analogy, with earlier revolutionary advances in, say, the engineering industries.

The first suspicions of such an upheaval may be associated with the third category of translation, which is becoming an increasing feature of the industrial and scientific picture. I refer to the automatic translation of publications as they appear, *in toto,* without any selection, and without specific demands from any quarter for a specific paper. This process is followed in respect to two types of material. The first covers conference papers, which are translated increasingly *en bloc* into one or more 'official' languages and are therefore available—usually to the public at large—to be read off at ease in the reader's native tongue. The second type of material comprises the now familiar cover-to-cover translation of entire journals as they appear. We might couple with this the full-length translation of technical and scientific books for publication.

What is the main significance of this changeover from the casual translation on request to the massive automatic cover-to-cover translation of works as they appear? Most people would say—the vastly increased amount of translation work, and the greatly expanded range of material available in the recipient language; generally speaking, a good thing all round.

If we stop there, however, it is just possible that we might be taking a short-sighted view. In order to look well ahead it is necessary sometimes to look backwards—into the causes, hence the value of history. The foggier the way ahead, the more one needs to know about what lies behind.

It seems to me that more significant than the actual fact of these fresh developments which are in evidence today is the underlying reason for the changeover from the casual translation to the organized full-scale publication. One cause could well be the breakdown of the old methods. The extent of this breakdown—whether partial or catastrophic—and the time-scale of its development vary in accordance with the particular interest or branch of science involved, among other things.

To take a specific case, a spectacular development has occurred in the field of complete cover-to-cover translation of Russian scientific and technical journals. More than forty of these are now appearing. None of these translated editions dates back more than ten years: 80 per cent have made their appearance for the first time during the last three years. On a present reading of the situation, the process is rapidly accelerating, although of course one can never tell the immediate future trend. On the basis of history in other fields of activity it would be surprising if setbacks were not encountered, either temporary or even permanent.

Since this development has been in the Russian field, there is no doubt a tendency to regard it as a Russian phenomenon rather than a broader expression of a condition which has been reached in scientific and industrial development on the international plane.

For our present purposes, namely the investigation of general trends in translation activity, it might be more appropriate to regard the present prominence of Russian as being, if not exactly fortuitous, at any rate unimportant. If we can say that the trend towards massive translations on a previously unknown scale was bound to emerge sooner or later, then it would not be unlikely that circumstances at the time would result in one language assuming some prominence at the given moment. We need not dwell on the specific reasons beyond saying that the present stage of scientific and industrial research has coincided with a rapid rise in the position of Russia in the international scale. At the same time, Russian, besides in the past being almost disregarded in school curricula, is a more difficult language for us to learn than, say, French or German, and many are the students who have fallen by the wayside in attempting to master it. These facts have decisively influenced sponsoring bodies in their support of Russian translations as against French or German. They have said that, all other arguments apart, a paper in French or German is more readily accessible to English scientists simply because a greater number of scientists can read French or German. The same could of course be said of Turkish and Arabic. Obviously, the importance of the language from a scientific standpoint has a decisive bearing.

Now whilst this argument is indisputable, the conclusions may not be so unqualified as they appear. In the first place, whilst it is true that French and German are known to more scientists than is Russian, I think that general experience is that, whatever the language, if there is an interest in a foreign paper, at some stage the question of a translated version will arise. I wonder whether, in assessing translation requirements, we cannot disregard the foreign language content of working scientists and engineers as being quantitatively (usually qualitatively also) such a small fraction of the total as not seriously to influence calculations.

The main purport of all this is that, although Russian is prominent in these early symptoms, the overall movement might well have a much broader range in the near future. Considering the rapid acceleration of scientific developments the future may well be nearer than one would imagine.

Be that as it may, we are faced with the possibility of some form of mass translation of technical material, largely periodicals perhaps, from and into several languages. Confining attention to this country, the number of journals to be thus treated may be what? A hundred or a thousand? The latter figure is obviously the more realistic if the present trend is not a freak.

Assuming that the developments are to follow along these lines, what would be the advantages and what obstacles would lie in the way?

An obvious advantage would be that a worker in a particular field could subscribe to the translated version of the leading periodical in his field emanating from another country—say Germany, France or Russia.

This immediately raises an important problem which is increasingly in evidence. Quite apart from the language question, I have in mind what is commonly referred to as the paper problem—not the provision thereof, but the reading thereof. The extreme picture drawn is that of a civilization submerged under the outpourings of energetic printing presses. A more realistic one is that of the despairing scientist faced with the prospect of digesting more than twenty-four hours' reading a day. Indeed, we have read some time ago of training courses for rapid reading, where the eyeballs were trained to cover a page with the minimum number of movements. The craze seems to have receded recently.

Be that as it may, the prospect of increasing the paper load beyond the capacity of the recipients must at least be mentioned. I am not sure that the situation is so alarming as might appear at first sight. In the first place, as the overall bulk increases, the degree of specialization or of subdivision of interests also sharpens. It is by no means a novel experience to hear complaints of lack of material, rather than excess, relating to a particular problem.

Accepting, however, the position of a continually increasing paper load, are we to say that this precludes the entry into our own English market of some hundreds of new publications in the various fields of specialization, consisting of English-translation versions of leading foreign publications?

I do not think so. I would rather see the paper load tackled otherwise, and here, strange as it may seem, the introduction of translated versions of foreign papers could well be a factor towards this end. There is no doubt that the quantity of English writing is far greater than necessary, and that it could be reduced without any loss in information content. Papers repeat papers. Some papers would never have been printed if the editor could have filled his quota of pages for the issue otherwise, and the papers themselves could usually have been reduced to a fraction of the verbiage with advantage.

Will the greater competition from a world range of periodicals raise the quality—or concentration—of the English efforts—and at the same time of the German, French and other efforts? And would not the English journal have to compete more vigorously with the foreign offer? And would not some second raters—or shadows—go out of existence, or 'combine'—to the national advantage? I think that availability of the total of the world's best will inevitably raise the quality of presentation all round, and no time will remain for much of the dross and duplication which at present gets by. In short, competition will have a sifting and concentrating influence, affecting both the number of papers published and the length of those which survive the competition. This then could be quoted as a second advantage—a general higher quality and denser concentration of the material we have to read.

A third advantage emerges from the selection aspect. By this I have in mind the manner in which foreign papers are selected at present for translation. It might be shown that the system is so hit-and-miss that one need not be surprised if a large amount of information never reaches the people it should. Generally speaking, the procedure is that some of the journals have some of the articles abstracted and these abstracts are then published. In this process only a small fraction of the papers would pass through this first sieve. The two factors affecting this sifting are in the first place selection—selection of the journals to be received for abstracting, followed by selection of papers to be abstracted from the journals—and in the second place, resources—financial resources and resources in abstractors competent in language and subject. In this process some fields of science fare better than others. As a supplement to this, there is the method of 'translated title lists' which, whilst providing a greater number of titles in a smaller space, gives extremely little information regarding the content—rather too little generally to induce one to gamble ten or twenty pounds on a translation.

After all, the purchase of a translation—and that is what is involved, whatever the arrangement used—on the basis of a brief abstract is very much a dip in the lucky bag in which the parcels contain a mixture of gems and packing—in varying ratios. It is quite certain that only a few of the gems ever come out. This is because selection has a small element of assessment and a large element of chance.

When cover-to-cover translations of the periodicals are available, you are in the position of having all the parcels unwrapped, as it were, and in full view. The element of chance is no longer there. You select from the whole array of material. What is more, instead of the finished product being available to only a select few—those who systematically scan the abstracts and titles and persevere through the tortuous procedure of having a translation made—and do not change their job before it is completed—instead of this, the whole of the material can be read easily, without any search or effort, by some thousands, and the costs shared accordingly.

This is the third advantage—a system by which it is possible to select the wares off the counter, rather than ordering from a catalogue entry.

I have enumerated three advantages of the mass cover-to-cover translation method—namely access of more material to more people; higher quality and greater concentration of material through the world competition aspect; and the removal of the hit-and-miss selection process.

What are the objections?

I have already dealt with one which could be raised—namely the increase in the mass of reading matter pouring from the presses—and have mentioned the pruning effect of competition.

A second factor would be the cost—the cost to produce, the cost to the purchaser, and—in the broader view—the load on the national economy. I mention the last factor in case any might recoil at the prospect of a large section of the population being engaged on nothing else than translating. This picture could only be conjured up on the basis of a greatly distorted conception of the labour required.

The amount of translation for a year's issue of a substantial monthly might be in the order of 300,000 words. Based on current translating rates, this would not provide a luxurious living for even one translator. I am not suggesting that one translator would necessarily be employed for the project—use is frequently made of the part-time services of a number of translators with various subject specializations. The total translating labour would thus be the equivalent of one translator per journal. Even with extreme estimates for editing and administration the overall number is still small—the equivalent (full-time) of two or three people. The task of producing an extra journal would scarcely panic any one of a hundred printing organizations.

Considering the extent to which all these processes would be on a part-time basis, and would be interwoven with other projects, the production of, say, a thousand such cover-to-cover editions would obviously have little effect on the overall labour situation. As regards cost of production and cost to the purchaser, some experience already exists in regard to this—mainly in the U.S.A. Exact conclusions are difficult, but a reading of comments and some rough arithmetic would indicate a financial balance with a thousand subscribers at an annual subscription around seven or eight pounds.

We might quote the objection that only a few people would want to read translations of some highly specialized technical papers. This brings to mind a surprising but common remark I frequently meet with in connection with the decision whether or not to make a translation—prepared for one person—generally available. In this situation, the person involved not infrequently passes the opinion that no one but he would be interested. Considering that the original paper was published and distributed to some thousands of people, I inevitably feel driven to discount this opinion. Even this small island contains more people than we have met.

Experience with existing cover-to-cover translation projects is still brief—usually less than three years—and it is held that any technical periodical project takes five years to attain a normal sound level of circulation. Even so, there are even at this stage indications that projects are making sufficient progress to envisage their continuation.

The objections to the system of cover-to-cover translation projects do not appear to be major ones, and the advantages weigh heavily in favour of the development of this system.

At this stage, we should say that we need not be dogmatic about the exact ultimate form which this sharp expansion in availability of translated foreign works will take on—and this disposes of some conjecture. For simplicity, I have followed the concept of 'cover-to-cover' translations, implying word-for-word translation of foreign periodicals. It would be surprising if this form were not to be modified in application. Indeed, the form of the original publications might well undergo changes as the result of the work-out of this system in the actual countries of origin themselves—since it is most unlikely that the process will be a one-way one—i.e. into English only, with no reverse activity. Indeed the Russians are stated to be ahead already in the translation of our journals into Russian.

Having reached this stage in the argument we can turn attention to alternative solutions or to supplementary solutions. In this latter category, supplementing any new developments, there will most certainly be a continuation of much of the present type of translating activity—the translation of commercial correspondence, conference papers, books and so on. I do not think we need speculate on the future of this kind of work.

The major alternative or supplementary solution which comes to mind is one which looms large at the present moment in scientific and educational circles. The question—as affecting Russian—was dealt with in the Eleventh Annual Report of the Advisory Council on Scientific Policy. After urging an international scheme in which Britain should co-operate in the publication of English-language editions of Russian periodicals, an account is given of progress and recommendations in the field of Russian-language courses in universities and research establishments. These developments, says the Report, are in the right direction.

With this we will agree, with minor qualifications perhaps. The conclusion which follows these statements, however, does appear to be rather unmeditated. It runs 'The only long-term solution is for our scientists to become as conversant with the Russian language as they are with German and other European languages'.

Now this conclusion bristles with naive implications.

Taking the last phrase first, the idea that one gets here is that our scientists are more or less conversant with German—not to speak of the 'other European languages' (e.g. Italian, French, Hungarian, etc.). Now it is well known that the load on any translation service is probably heaviest just in this language—namely German—which is quoted as an example. The idea that English scientists are at ease in languages—except for Russian—is contrary to experience. Passing from this point, it is suggested that English scientists should become conversant with Russian—through the inclusion of the language in educational programmes. Now reverting to German, I should say—what most people would say—that the level of success achieved in the teaching of languages such as German might well be a deterrent to the extension of the experiment to the much more difficult Russian language, if we have as our purpose the mastery of the language by very large numbers of students. It is true that some benefit would accrue—as in the case of German—in that the seed would here and there fall on good ground, and would bear fruit. Nevertheless, we are left with this second objection to the conclusion of the Advisory Committee in that this step would not open up Russian technical literature to large numbers of scientists.

The third objection resides in the assumption that the overall problem would be solved with the acquisition of Russian by the body of scientists. Indeed an outstanding weakness of the conclusion is emphasized when the expression 'long-term solution' is applied. Surely, the long-term solution must take in the prospect of other languages than Russian coming into the picture—Chinese, for example, the language of a people which within the lifetime of some of us here will represent half the population of the world, a people whose progress since their revolution a decade ago is taken by some as a portent of future rivalry with Russia, whose revolution is approaching its half-century. Without speculating on the prospects of this or that language, we can be certain that the long-term situation will not affect one language or even two, but several.

Briefly then, to picture scientists in considerable numbers mastering Russian is somewhat speculative; to picture them mastering Russian in addition to German is a little more so; to envisage more languages still approaches the fantastic. From the standpoint of time devoted to such activity, it is doubtful whether scientists devoting such time and effort to language studies would make much progress as scientists. No doubt exceptions would occur.

There is still a further weakness in this approach to the problem, drawn from experience. Even when a scientist or engineer can read a paper in its original foreign language, it is frequently found that in order to fully take it in he needs a translation. I have had it put to me in this way—'I can study a paper in English, and I can translate a paper from German, but either job separately is a full-scale effort. I can't do both jobs adequately at the same time.'

I am not suggesting that this argument alone would destroy the benefits of knowing a language, but it reinforces the need for translations—not only for the thousands who cannot read the language, but also for the dozens who can.

Summing up, we can welcome an extension of Russian in the educational programmes but cannot see it as a solution to the translation problem. It can certainly be regarded as a supplementary and supporting measure. For one thing, it will help provide some good Russian technical translators. On a universal scale, however, considering the time absorbed and the cost, it would compare very unfavourably in economics alone with the comprehensive translation programme.

Abstracting services will always be invaluable in all fields of scientific literature—whether as regards English material, translations of foreign papers or original foreign papers. This is not the place to enlarge on the subject, but we can express the hope that attention will be paid to developing these services to the full, making them available in such forms as will provide a ready and unambiguous link between the scientist and his material.

Important, however, as abstracting services undoubtedly are, they again should only be a supporting factor in the field of foreign technical information. Without digressing too far to discuss the proper place and the proper use of abstracts in technical information, it can be said that they are at least an index to some of the material available; available in what form, you may say—Chinese? Russian? Again, abstracts are no substitute for reading the original journals and publications directly affecting one's immediate specialist interest. I repeat—they are a valuable supporting factor—but not an alternative to translated editions of the leading foreign periodicals.

I could enumerate several other supporting activities which are already widely practised, some of which might be considered fleetingly as alternatives. I have in mind such practices as assisted reading—i.e. a translator at the elbow of the scientist. Again, there are services such as the D.S.I.R. Co-operative Translating Scheme, which is to be modified in the New Year to good advantage. Such activities as these should certainly be developed further to fill the gaps which will always exist even after the adoption of the best of schemes.

Summing up: We have traced the history of translations in the scientific field from the days when the process was in the reverse sense from that adopted today—when writers wrote their works in a common 'dead' language. As this practice was abandoned we enter the period when the research worker did his own translating, just as he did his own filing and sawing. The next development occurred when scientists were provided with some form of translating service, in the same way as workshops and the like, but generally much more tardily and grudgingly—in the manner of a luxury. Later on some translations—together with conference papers—were made generally available, with the subsequent extension of this, right up to the cover-to-cover translation of complete journals for general publication.

If you like that kind of thing you can draw a spiral of the processes, starting from the individual turning his work into Latin right at the start for the purpose of general understanding, and finishing up with publishing organizations turning multitudinous tongues into multitudinous other tongues for the same purpose and on a vastly enhanced scale. To suggest going back to the beginning and using one common language is to suggest that progress advances in circles and not in spirals. In any case, this approach has been laboured too hard and too long to merit resuscitation.

The fact that the problem has reached such proportions must be accepted as just another of those hardships which come with progress, being another expression of the increasing interdependence of man on man and of man on systems. What was once done single-handed now requires the organization and mobilization of the appropriate resources. To attempt to meet the problem by teaching everybody to do their own translating is just as stupid as it would be to tackle the problem of international transport by teaching everybody to walk faster or to flap their arms. Just as we require international public transport systems, so we are faced inexorably with the necessity for public international linguistic communication systems.

Having reached this general conclusion it is proper now to put the age-old practical question—so what?

The position can be stated thus.

We are confronted with a situation which will demand resources adequate to that situation—adequate in volume, in quality and in organization. As in all such cases, the basic resources will be resources in human labour endowed with the appropriate skills and equipped with such machinery as will hasten and cheapen the finished product, understanding at all times that the finished product must reach a proper standard of quality in the light of the use which will be made of it.

We have to try to put these three factors—human skills, machinery and finished product—into perspective, because each has a decisive bearing on the others.

Of these three elements—human skills, machinery and final product—we will consider first the finished product, since, after all, this is the final purpose. We have to consider three things in relation to the product, namely the quantity, diversity and standard of quality. We will confine the study to translations into English, having in mind, of course, that similar developments will be occurring in varying degrees in other countries of the world.

In terms of prospective quantities we can name several figures, any of which has a high probability of application sooner or later. Considering that at present some forty journals are being treated from Russian alone, we can assume the equivalent of some 500, say, at some time in the not far-distant future. Assuming 300,000 words per journal per year, this makes something around 150,000,000 words for this type of (cover-to-cover) translation, in addition to translation work in other fields.

In terms of diversity—diversity in languages of origin and diversity in terms of subject—here we can assume something approaching a dozen main languages. Perhaps the subjects might be broadly classified under a similar number of heads, since this classification would of necessity be arbitrary and expedient rather than precisely scientific.

Now as regards standards of quality of the translation there may be different opinions, but any serious consideration must lead to the conclusion that here—as in all technical writing—accuracy and ease of reading are essentials, and some modest measure of artistry is desirable.

Having established some measures (albeit arbitrary) of quantity, diversity and standards of quality of the translated product, we can now think in terms of the resources necessary or most appropriate to the task.

The only practical translating medium at present is the technical translator—mainly full-time professional or part-time freelance. Before considering a prospective alternative—the electronic translating machine—we should examine how the technical translator may be expected in the future to cope with the requirements of an increasingly demanding industry.

Basing our estimates on the most highly skilled and competent technical translators at present operating, and assuming that all future translators will have to measure up at least to these standards, we can say that a professional translator working in his own field of specialization can in the general way take up a piece of work—book or technical paper—and read direct to a dictating machine at a moderate speaking speed. All jobs will not of course be plain sailing. Snags will have to be meditated and solved. In the case of most snags, dictionaries will not provide a solution. The translator will have to apply skilled judgment and sometimes imagination. In some cases he will have to coin or adapt a technical term appropriate to a new situation. The quality of the finished work should reach publication standards or very nearly so. In addition the work must conform to some economic yardstick.

We have now to consider whether the electronic translating machine will provide an alternative in, say, the next ten years.

In the light of the very high capital and depreciation costs, in addition to maintenance and replacement costs, such a machine must deliver an extremely high output at a nearly finished quality, with a minimum of human assistance in the form of preparation, feeding and editing—particularly the latter. A machine equipped to such standards might have to carry something well over £20,000 per annum in capital charges and depreciation. If advances are rapid a machine might have to be written off at a much sharper rate. Costs of maintenance, preparation of the material and feeding would have to be added. Even assuming that the translated work coming off the machine would require a negligible amount of editing before being passed to the publisher, the annual costs of such a machine would not be less than the cost of maintaining a staff of twenty or thirty translators, and might be considerably more.

These rough comparisons are based on the assumption that a machine will produce a finished document comparable with that arriving from a first-class professional translator, and requiring no more editing than would the translator's work. We have to ask ourselves whether such a possibility is worth serious consideration. Remember that if a machine were endowed with every grammatical construction and every dictionary term in existence, it would not be in a position thereby to solve the everyday problems which beset the translator. It is well known to translators that the terms which give trouble are just not in the dictionaries. Similarly, the difficulties of construction are those which do not conform to book grammar. In addition, the translator immediately detects sudden changes in subject and applies the terminological adjustment. He can also detect changes in language when these occur, in addition to errors—both printer's and author's. His final work may well be of a higher standard than the original and of a higher standard than the writings of an English scientist writing in English.

Whether from a machine or otherwise, any translation which fails to reach a high standard might be of little or no value. This may be surprising to the uninitiated, except when it is considered that a poor or unreliable translation, which requires tedious checking against the original, will occupy more time for this process that it will take a good translator to make a good translation from the original language. It might be claimed that checking can be carried out by a subject expert who does not know the original language. It would be false to assume this, as such a checker would not be in a position to detect pitfalls of interpretation peculiar to a given language, and would not be able to check against the original. In any case—how much cheaper would such labour be than that of a translator?

Briefly, any hopes in the future for the electronic translating machine which are based on the assumption that fairly good or rough translations will contribute towards the production of good-quality cheap translations are vain. Any output of this type, requiring close editing, might well be worthless—or at best worth a few shillings per thousand words. No immensity of output could compensate this fact. The first essential of the electronic translating machine is that it shall produce nearly perfect and completely reliable translations. The second essential is that it shall do this more cheaply than the alternative method. If we are not optimistic regarding these two factors, then the electronic translating machine is likely to prove nothing more than an interesting academic study so far as the practical problem of producing good-quality translations economically is concerned.

This leaves us with the immediate necessity for a body of professional translators—be it full-time or part-time, employed or freelance—with a competence and status greatly in advance of the present hotch-potch. We must face up to the fact that the relationship of existing translators to the profession which the immediate future demands is very much akin to the relationship of the early-day quacks to the present-day medical profession. The relatively few who could maintain their position in such an advanced profession are swamped by their numerical insignificance in the flood of semi-amateurs who have heard that there's money to be made if you can use a dictionary. Hence standards fall, and large organizations are not mindful of the final cost of amateurish work, and establish their concepts and evaluations on the basis of such work. In turn, the first-rate professional, faced with a market in which assessments are based on the second-rate product, is forced to gear his production to a second-class product, or suffer economically.

This, then, is the immediate task of the translating industry from the professional side: to clean up the present hotch-potch of professional translators and pseudo-translators; and to establish professional standards alongside a professional status proper to the present and future demands of science and industry.

Industry has an obligation in the furtherance of this purpose, since it is industry that has most to gain by the establishment of a sound, healthy and growing profession which will in the end produce the goods—to the required quality, in the necessary quantity and in the most effective and economic manner.

The task is too urgent to be left to chance. What is more, if British industry fails in this, it may fail altogether.

SELECTIONS FROM THE RECENT LITERATURE

Books and Pamphlets

ALT, FRANZ L.
Electronic digital computers: their use in science and industry. London, Academic Books Ltd, 1958. x, 536 pp. diags.
(Applied mathematics and mechanics series). 80*s*.

AMERICAN LIBRARY ASSOCIATION
77th annual conference proceedings of the American Library Association at San Francisco, California, July 13–19, 1958. Chicago, the Association, 1958. 84 pp.

ANDERSON, C. R., *and others*
Business reports, investigation and presentation, by Chester Reed Anderson, Alta Gwinn Saunders and Francis William Weeks. 3rd ed. London, McGraw-Hill, 1957. vii, 407 pp., tables. 45*s*.

*ASLIB. ELECTRONICS GROUP
Handlist of basic reference material for librarians and information officers in electrical and electronic engineering, compiled by Ellen M. Codlin . . . London, Aslib, 1959. 37 pp.

BRITISH SCIENTIFIC INSTRUMENT RESEARCH ASSOCIATION
Symposium on the literature of instruments and instrumentation. Chislehurst, Kent, B.S.I.R.A., 1958. [1], 58 pp. (Report no. M 33). 10*s*. 6*d*.

BRITISH STANDARDS INSTITUTION
British standard recommendations for proof correction and copy preparation. Rev. ed. London, B.S.I., 1958. 28 pp. (B.S. 1219: 1958). 6*s*.

CASEY, ROBERT S., *and others*
Punched cards: their applications to science and industry. 2nd ed. New York, Reinhold; London, Chapman & Hall, 1958. x, 697 pp. illus., bibliog. 120*s*.

CONDOYANNIS, GEORGE E.
Scientific German: a concise description of the structural elements of scientific and technical German. New York, Wiley: London, Chapman and Hall, 1957. x, 164 pp. 15*s*.

DAVISON, GEO. H.
Micro-copy cards and microfiches: review of progress in 1958. Rotherham, United Steel Companies Ltd, 1958. 22 pp.

DEARMOND, FRED
The executive at work: a guide to successful performance. Englewood Cliffs, N.J., Prentice-Hall, 1958. xii, 228 pp. 40*s*.

GODFREY, J. W., *and* PARR, G.
The technical writer: an aid to the presentation and production of technical literature. London, Chapman and Hall, 1959. 340 pp., illus., diagrs. 45*s*.

GREAT BRITAIN. Joint Intelligence Bureau
Guide to government department and other libraries and information bureaux. 11th ed. London, Ministry of Defence, 1958. 112 pp.

GREAT BRITAIN. PUBLIC RECORD OFFICE
Report of the Deputy Keeper of the records, 1957. London, H.M.S.O., 1958. 23 pp. 1*s*. 3*d*.

GREAT BRITAIN. TREASURY. Organization and Methods Division
A guide to government libraries. 2nd ed. London, H.M.S.O., 1958. viii, 139 pp. 7*s*. 6*d*.

*HAWKINS, R. R., *ed.*
Scientific, medical and technical books published in the United States of America; a selected list of titles in print with annotations. 2nd edition: books published to December, 1956. . . . Washington, National Research Council, [New York, R. R. Bowker]. 1958. xii, 1491 pp. $20.

IBM UNITED KINGDOM LIMITED
The cost of typing: twenty case studies of typing costs and output; conducted by the Office Administration Department of Production Engineering Limited. London, IBM, 1958. 40 pp. tables. diagrs. gr.

*INTERNATIONAL LABOUR OFFICE. Library
Bibliography on cooperation. Geneva, International Labour Office, 1958. ii, 126 pp. (Bibliographical Contributions no. 14).

JACKSON, HARTLEY EVERETT
Printing: a practical introduction to the graphic arts. New York, McGraw-Hill, 1957. x, 286 pp., illus., diagrs. 31*s*. 6*d*.

JOHNSON, IRMA. *compiler*
Selected books and journals in science and engineering. Massachusetts, Technology Press, 1958. [2], 58 pp.

LANE, ALEXANDER
Die Fremdsprachenberufe; unter mitwirkung von Thomas Finkenstädt, Günther Haensch und Rudolf Walter Jumpelt. München, Isar Verlag, 1958. 206 pp. (Die Fremdsprachen in der Praxis, Reihe A/Band 1).

*LONDON UNIVERSITY. London School of Economics and Political Science. *British Library of Political and Economic Science*
A London bibliography of the social sciences. Vol. X, 1950–55, A–K. London, the Library, 1958. xi, 1099 pp. (Studies in economics and political science). 100*s*.

NATIONAL INSTITUTE OF INDUSTRIAL PSYCHOLOGY
Comments on the job: views of employees in six companies. A study by Isabel Blain of data collected by Institute investigators during employee attitude surveys. London, the Institute, 1958. [4], 20 pp.

OFFICE MANAGEMENT ASSOCIATION
Trends in personnel practice: a summary of answers given by 54 large office employers in the County of London to questions affecting nearly 40,000 office workers. London, O.M.A., 1958. [4], 21 pp. 7*s.* 6*d.*

ORGANISATION FOR EUROPEAN ECONOMIC CO-OPERATION. European Productivity Agency
Register of research in the human sciences applied to problems of work and directory of relevant research institutions, Belgium. Paris, O.E.E.C.; [London, H.M.S.O., 1958]. 52 pp. 3*s.*; 200 *fr.*

PERRY, J. W., *and* KENT, ALLEN
Tools for machine literature searching: semantic code dictionary, equipment, procedures. New York, Interscience, 1958. xviii, 972 pp. (Library science and documentation series—volume 1). £10 10*s.*

RAE, THOMAS, *and* HANDLEY-TAYLOR, GEOFFREY. *comps*
The book of the private press: a check list. Greenock, The Signet Press, 1958. xiv, 48 pp. 10*s.* 6*d.*

SABOR, JOSEFA EMILIA
Manual de fuentes de información; obras da referencia: enciclopedias, diccionarios, bibliografías, biografías, etc. Buenos Aires, Kapelusz, 1957. xiv, 335 pp. (Contribuciones bibliotecológicas vol. 2).

TOKYO. NATIONAL DIET LIBRARY
Exchange of ideas: East and West meet the challenge. Final report of the seminar on the international exchange of publications in the Indo-Pacific area. November 4–11, 1957, Tokyo. Tokyo, National Diet Library, 1958. 8, 297 pp., illus.

UNITED NATIONS EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION
Agreement on the importation of educational, scientific and cultural materials: a guide to its operation. 2nd ed. Paris, Unesco, 1958. 30 pp.

UNITED NATIONS EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION
Classification in national bibliographies, by Hanns W. Eppelsheimer. Paris, Unesco, 1958, 5 pp. (Symposium on National Libraries in Europe). gr.

U.S. ATOMIC ENERGY COMMISSION
Guide to atomic energy literature for the civilian application program. First revision November, 1957. Washington, Atomic Energy Commission, 1957. iv, 81 pp., tables. gr.

VEREIN DEUTSCHER INGENIEURE
Synthetische Faserstoffe: Veröffentlichungen bis zum Jahr 1958, zusammengestellt und bearbeitet von A. Koch und F. Neeb. Düsseldorf, V.D.I., 1958. 164 pp. (Dokumentation Fachbibliographie Nr. 3). DM 8.50.

VERRY, H. R.
Document copying and reproduction processes. London, Fountain Press, 1958. 328 pp., illus., diagrs. £2 2*s.*

Articles and Papers

ASSOCIATION OF COLLEGE AND RESEARCH LIBRARIES
The status of American college and university librarians, edited by Robert B. Downs. *ACRL Monographs*, no. 22, December 1958, iii, 176 pp. $3.50.

BARKER, T. C.
Business history and the business-man. *Business History*, vol. 1, no. 1, December 1958, pp. 16–20.

BARRY, JAMES W.
A study on long term periodical subscriptions. *Library Resources and Technical Services*, vol. 3, no. 1, Winter 1959, pp. 50–54.

BLANCHET, ANN
Indexing general and popular magazines. *Special Libraries*, vol. 49, no. 10, December 1958, pp. 468–472.

BOSMAN, T. H.
De U.D.C. en de archiefverzorging der rijksadministratie. *Tijdschrift voor Efficiëntie en Documentatie*, vol. 29, no. 2, February 1959, pp. 60–63.

BROWN, A. F. R.
Language translation. *Journal of the Association for Computing Machinery*, vol. 5, no. 1, January 1958, pp. 1–8.

CEMACH, HARRY P.
You don't need a translator? *Office Magazine*, vol. 6, no. 62, February 1959, pp. 112–4.

CLEVERDON, CYRIL
An investigation into the comparative efficiency of information retrieval systems. *Unesco Bulletin for Libraries*, vol. 12, no. 11–12, November–December 1958, pp. 267–270.

COBLANS, HERBERT
Some notes on the organization of special libraries. *Unesco Bulletin for Libraries*, vol. 12, no. 11–12, November–December 1958, pp. 261–265.

COILE, RUSSELL, *and* FOSTER, BABA
Use of computers for mechanised literature searching in operations research libraries. *Operations Research*, vol. 6, no. 3, May–June 1958, pp. 434–8.

CORDONNIER, G.
Applications of microcopies in documentation. *Unesco Bulletin for Libraries*, vol. 12, no. 11–12, November–December 1958, pp. 271–276.

EGGER, EUGÈNE, *and* URQUHART, D. J.
Needs of special libraries. *Unesco Bulletin for Libraries*, vol. 12, no. 11–12, November–December, 1958, pp. 254–260.

GOOD, I. J.
How much science can you have at your fingertips? *IBM Journal of Research and Development*, vol. 2, no. 4, October 1958, pp. 282–288.

RECENT LITERATURE

GROLIER, ERIC DE
Problems in scientific communication. *IBM Journal of Research and Development,* vol. 2, no. 4, October 1958, pp. 276–281.

MISUMARU, KOZATO
Research libraries in Japan today with special reference to their inter-relationship. *Libri,* vol. 8, no. 3–4, 1958, pp. 310–314.

PARKER, A. G.
Notes on cataloguing Russian publications. *The Library Association Record,* vol. 61, no. 1, January 1959, pp. 6–11.

RANGANATHAN, S. R.
Library classification glossary. *Annals of Library Science,* vol. 5, no. 3, September 1958, pp. 65–112.

RICHTER, ANNE J.
Z–39 subcommittee on indexing. American Standards Association. *Special Libraries,* vol. 49, no. 10, December 1958, pp. 474–481.

SANDOVAL, ARMANDO M.
Mexican scientific and technical documentation centre. *Unesco Bulletin for Libraries,* vol. 12, no. 11–12, November–December 1958, pp. 277–279.

SCHAEFFER, HELEN
Indexing McGraw-Hill magazines. *Special Libraries,* vol. 49, no. 10, December, 1958, pp. 462–468.

SCOTT, PETER
The miraculous bubble: a look at Kalfax microfilm. *Library Resources and Technical Services,* vol. 3, no. 1, Winter 1959, pp. 40–46.

STEBBINS, KATHLEEN B.
A new look at old problems: recruitment—accreditation—library education. *Wilson Library Bulletin,* vol. 33, no. 3, November 1958, pp. 213–218.

SWANK, RAYNARD C.
Too much and too little; observations on the current status of university library resources. *Library Resources and Technical Services,* vol. 3, no. 1, Winter 1959, pp. 20–31.

THOMPSON, LAWRENCE S.
The microfacsimile in American research libraries. *Libri,* vol. 8, no. 3–4, 1958, pp. 209–222.

WHEELER, JOSEPH L.
The effective location of public library buildings. *University of Illinois Library School, Occasional Papers,* no. 52, July, 1958.

All the above items may be borrowed from Aslib Library, except those marked with an asterisk. Most of these are available for consultation in the Library, apart from a few for which locations in other libraries can be given.

MEMBERS' ADVERTISEMENTS

FRENCH translations—technical, scientific, legal, by specialist. Roland Turkel, Licencié ès Lettres (Lille), F.I.L., 207 Ruskin Park House, Champion Hill, London, S.E.5. Tel. BRI 2499.

GERMAN TECHNICAL TRANSLATIONS, by qualified engineer, 16 years' experience (several years in Germany). Excellent references. (On Aslib Register of Specialist Translators.) C. Priest, A.C.S.M., 114 Charlton Road, Westbury-on-Trym, Bristol.

TRANSLATIONS, TECHNICAL, SCIENTIFIC, all languages, by specialists with sound technical and scientific qualifications. J. Smuts, B.SC.(ENGIN.), F.I.L., 140 Wightman Road, London, N.8. Tel. FIT 0835.

Appointments vacant

ASSISTANT LIBRARIAN AND ABSTRACTOR (woman), qualified in organic chemistry to B.Sc. standard, required in London. Knowledge of foreign languages helpful. Commencing salary £700 p.a., with prospects of further increments for suitable applicant. Please apply by confidential letter giving qualification and experience to the Staff Manager, British Plastics Federation, 47/48 Piccadilly, London, W.1.

BRITISH-AMERICAN TOBACCO CO. LTD require an Information Officer/Librarian for their recently completed Research and Development Establishment at Southampton. Candidates should have a science degree or equivalent, a reasonable knowledge of languages (particularly German), experience of technical library organization and its procedure, including supervision of juniors. A five-day week and contributory pensions scheme are in operation. Applications should be addressed to Personnel Department, British-American Tobacco Co. Ltd, Westminster House, P.O. Box 482 Millbank, London, S.W.1.

CATALOGUER. The Institute of Bankers require a chartered librarian to carry through the reclassification of the lending library. The work is expected to take about twelve months. Applicants should have a social science background and experience of U.D.C, classification. They should write, quoting age, qualifications and experience, to the Secretary, The Institute of Bankers, 10 Lombard Street, E.C.3.

GLAXO LABORATORIES LTD require an ASSISTANT LIBRARIAN for their Research Establishment at Stoke Poges, Bucks. Applications are invited from women who have a knowledge of French and German and are able to type. Experience in a biological or medical library and the possession of the Library Association Registration examination would be decided advantages but are not essential. The commencing salary will depend upon the ability and experience of the successful applicant and the post carries participation in the company's pension and incentive bonus schemes. Five-day week. Apply in writing to the Personnel Officer, Glaxo Laboratories Ltd, Greenford, Middlesex.

LIBRARIANS. Pensionable posts for men or women at (1) Veterinary Laboratory, Weybridge, Surrey, (2) Government Communications Headquarters, Cheltenham, (3) Royal Aircraft Establishment, Farnborough, Hants, and (4) Military Engineering Experimental Establishment, Christchurch, Hants. Age at least 22 on 1st March 1959. Qualifications: Fellowship or Associateship of Library Association, or diploma of London University School of Librarianship, with experience of library work. Knowledge of foreign languages an advantage for posts (1), (2), and (3). Salary (men) £635 (25 or over) rising initially to £1055 with promotion prospects. Write Civil Service Commission, Burlington Gardens, London, W.1 for application form, quoting 4935/59. Closing date 2nd April 1959.

SENIOR TECHNICAL INFORMATION ASSISTANT required for London-based organisation providing an industry-wide service. Membership of Institute of Information Scientists or equivalent qualification desirable. Salary in region £1000 a year according experience. Write in confidence Marketing Development Co. Ltd, 12 Grosvenor Place, London, S.W.1.

TECHNICAL INFORMATION. The library of Smith & Nephew Research Ltd has a vacancy for a Technical Assistant (male or female). Desired qualifications are Higher National Certificate or a General Science degree and library experience is desirable but not essential. Knowledge of German would be an advantage. Duties will include abstracting, indexing, and other aspects of technical information. This is a new position arising out of the expansion of the company, which is the research organization for Smith & Nephew Association Companies Ltd. Preference will be given to those applicants under 35 years and salary will be according to age, qualifications, and experience. The company's premises are in a country district twenty-five miles north of London and conditions of employment are well in keeping with recognized levels and include a contributory pension scheme. Write, giving details of age, qualifications, previous experience and salary required to Research Manager (Administration), Hunsdon Laboratories, Ware, Herts.

TECHNICAL INFORMATION OFFICER required to establish a new Information Department and Technical Library in Hoover Ltd, to serve the British and American companies. Desirable qualifications are good experience in technical information work, a degree or equivalent in physics or engineering, and knowledge of German, French, and Russian. Candidates with suitable experience but without all the stated qualifications will be considered. Salary in range £1000–£1500. The company operates a generous staff pension scheme. Applicants should state details of age, education, and experience and should address their replies to the Employment Officer, Hoover Limited, Perivale, Greenford, Middx.

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incorporating Aslib Information

Volume 11 April 1959 Number 4

ASLIB CALENDAR

MAY

FRIDAY 8th. Conference on presentation of technical information.

THURSDAY 14th. Engineering Group visit.

MONDAY 25th. Engineering Group Annual General Meeting. See paragraph below.

FRIDAY 29th – SUNDAY 31st. Electronics Group conference. See paragraph below.

JUNE

FRIDAY 26th. Annual General Meeting.

OCTOBER

MONDAY 5th – WEDNESDAY 7th. Annual Conference at the Grand Hotel, Scarborough.

MONDAY 19th. Engineering Group visit. See paragraph below.

Senior Introductory Course to Information Work

A four-day course for newcomers to the information field will be held at Aslib during May. The syllabus will include six or seven lectures on sources of information, principles of cataloguing and classification, dissemination of information, exploitation of material, and handling of inquiries. The course has been planned to be of maximum benefit to graduate information workers of not more than six months experience. Application forms are available from Aslib, Conferences and Courses Department, 3 Belgrave Square, London, S.W.1.

Northern Branch

The twelfth Annual General Meeting was held on 27th February in Manchester. Eighty delegates attended. The Committee was re-elected *en bloc* for 1959–60. Officers: Chairman, A. R. Cameron; Vice-Chairman, V. D. Freedland; Hon. Treasurer, F. Newby; Hon. Secretary, Miss E. Boddy. After the business meeting, Mr R. Sewell, Information Officer, United Steel Companies, gave a short talk on 'Some impressions of the attitude of industrial managers to special libraries and information services on the Continent'.

A conference is to be held early in May in Liverpool. Branch members will be notified of the date as soon as possible by the Hon. Secretary, Miss E. Boddy, The Retreat, Tideswell Lane, Eyam, near Sheffield.

Electronics Group

The first conference of the Group will be held from Friday 29th to Sunday 31st May at Ashridge College, Berkhamsted. Accommodation will, unfortunately, be limited to fifty delegates, but the Annual General Meeting at 2.30 p.m. on Sunday 31st will, of course, be open to all Group members. Speakers at the conference will be: A. E. Davis, BBC, on the BBC Television Film Library; W. A. Turner, B.SC.ENG., M.I.E.E., M.S.I.T., Automatic Telephone and Electric Company Limited, on what an electronic research organization requires from its information service; Mrs Ellen M. Codlin, A.L.A., The General Electric Company Limited, Stanmore, on bringing the information service to the attention of the engineer; G. N. J. Beck, B.SC., A.M.I.E.E., A.INST.P., Editorial Assistant, *Endeavour* Foreign Editions, on progress in the UDC 621.3 tables; John Davies, Branch Librarian, East Holborn Library, on punched cards in the library and information fields; and Miss E. M. Shephard, BBC, on special problems of the Radio Times Hulton Picture Library. Members wishing to attend the conference who have not already applied should do so at once to the Group Secretary, N. E. C. Isotta, Ministry of Supply, T.I.L.2, Room 008A, First Avenue House, High Holborn, London, W.C.1.

Engineering Group

The Annual General Meeting will be held at 2.30 p.m. on Monday 25th May at Aslib, following luncheon at the Anglo-Belgian Club, 6 Belgrave Square, London, S.W.1, at 12.30 for 1 p.m. After the business meeting, Mr H. W. Gatehouse will show films of Russia and of cable-laying in the English Channel.

On Monday 19th October an afternoon visit to Cadby Hall has been arranged. Members will be able to tour the bakeries, kitchens, and ice-cream factory. Refreshments will be provided.

Engineering Group: Engineering Translators' Section

This Section was formed four years ago as the Electrical Translators' Section of the Aslib Engineering Group. It has become increasingly apparent that it has outgrown its restriction of interest to electrical engineering and therefore, in accordance with the decision taken at the General Meeting of the Section held on 15th December 1958, the scope of the Section and the bulletin is now being extended to cover the field of engineering in general. Members of Aslib to whom this wider field of interest may appeal are invited to join the Section, now known as the Engineering Translators' Section, and co-operate in the interchange of information and experience. Applications should be addressed to the Secretary of the Section, Dr M. Goyer, Information Bureau, Royal Propulsion Establishment, Westcott, near Aylesbury, Bucks.

Film Production Librarians Group

At a meeting of the Group on 17th February, David Grenfell, Chief Cataloguer, National Film Archive, gave an interesting paper on the need for standardization in film cataloguing. As a result of this meeting a committee has been formed, under the chairmanship of Mr Grenfell, to study the matter in greater detail. Mr Grenfell's paper will be published in the June issue of *The Journal of documentation*, vol. 15, no. 2.

The Group has now completed the compilation of a *Directory of film production libraries*, giving the addresses of film production libraries in this country from which linking picture shots, sound effects, and music, can be obtained for inclusion in new films, and including advice on the use of film production libraries. The Directory is expected to be ready for sale in September at 5*s*. 6*d*. Advance orders should be sent to H. Wynder, Hon. Treasurer, Aslib F.P.L. Group, 33 Sylvester Gardens, Hainault, Essex.

Cyril Barnard

Members will have heard with regret of the death on 6th March of Cyril Barnard, Librarian of the London School of Hygiene and Tropical Medicine since 1921. He was the author of the Barnard system of classification now in use in many medical libraries throughout the world, including that of the World Health Organization at Geneva which Mr Barnard himself classified.

International Conference on Machine Searching and Translation

An international conference on 'Standards on a common language for machine searching and translation' will be held from Sunday 6th to Saturday 12th September at the Tudor Arms Hotel, Cleveland, Ohio. The conference will be sponsored by Western Reserve University and Rand Development Corporation. Its primary purpose will be to encourage the development of a common machine language or a series of compatible machine languages for the preparation of scientific and technical literature for searching, selecting, correlating, and translating by means of automatic equipment. Further information is available from the Secretariat, Center for Documentation and Communication Research, Western Reserve University, Cleveland 6, Ohio, U.S.A.

Business Archives Education Courses

Short courses in business archives management are being held by the Business Archives Council. Those interested in the treatment of modern business papers or older archive material are invited to get in touch with the Secretary, Business Archives Council, 9 King's Bench Walk, London, E.C.4.

TALIC

The Tyneside Association of Libraries for Industry and Commerce (TALIC) has recently issued a folder announcing its objects, resources, and services. TALIC is an association of public, industrial, and academic libraries in the Tyneside area. It was formed with the object of making information more readily and quickly available to industry and commerce, and includes a free regional advisory service. Further particulars are available from TALIC, Newcastle Central Library (Commercial and Technical Department), Newcastle upon Tyne 1, Northumberland. Telephone Newcastle 2–5877.

Exhibition of Scientific Publications

The Librairie de Documentation is to hold an international exhibition of scientific, technical, economic, and documentary publications during the fifth international chemistry salon from Thursday 18th to Monday 29th June, in Paris. Publishers who are interested in exhibiting are invited to write to M. J. Barbier, Librairie de Documentation, Département de Librairie et de la Société de Productions Documentaires, Magasin de Vente, 28 Rue St Dominique, Paris 7e.

Technical Education

Evans Brothers Limited have published the first issue, February 1959, of a new monthly journal entitled *Technical education.* The objects of the journal are to serve the practical needs of those concerned with technical education in schools and colleges and with training in industry, and to encourage exchange of experience and opinions within these groups. The first issue of *Technical education* includes authoritative articles on training in industry, technical subjects in secondary schools, research in technical colleges, technical college buildings, science teaching, and training films. Regular features also included in this issue are book reviews, letters to the editor, comment on visual aids, and a news section. *Technical education* may be ordered through any newsagent or direct from Evans Brothers Limited, Montague House, Russell Square, London, W.C.1, at an annual subscription of 36*s.* including postage, or 2*s.* 6*d.* each copy.

Extensions and Corrections to the UDC

The Fédération Internationale de Documentation has recently published Series 3, no. 5, of *Extensions and corrections to the UDC.* It covers the period 1 January 1956 to 30 June 1958 (PE 598–641) and runs to 106 pages. Among the sections receiving extended treatment are 535, 543, 551, 591, 621, 632, 634, 65, 666, 669, 677, and 69. Each series of extensions and corrections is published over a period of three years, two issues appearing each year. They may be obtained in the United Kingdom from the British Standards Institution, 2 Park Street, London, W.1, at an annual subscription of 3 guineas.

Dewey Decimal Classification amendments

The Library of Congress *Information bulletin,* vol. 18, no. 4, announces the prospective publication of *Decimal classification additions, notes and decisions,* intended to keep users of the sixteenth edition of the *Dewey decimal classification* up to date. The new publication will be edited by the Decimal Classification Office and will be published quarterly, or more often if necessary. It will include corrections to any errors discovered in the sixteenth edition, new classification numbers, and new interpretations of old numbers as required, and will suggest new index entries. It will be distributed free to all institutions using the Dewey classification. Further information about this service is published in *Cataloging service,* Bulletin 51, December 1958, obtainable free from the Card Division, Library of Congress, Washington 25, D.C.

List of International Meetings

The Library of Congress announces that the first issue of the new *World list of future international meetings* will be published in two parts on 1st June. It will list all known meetings drawing on three or more nations that are to be held anywhere in the world during the next three years, and will give names and addresses of sponsors and organizing committees wherever possible. Part 1 of the list will include scientific, technological, medical, and agricultural subjects, and Part 2 will list meetings in the social, cultural, humanistic, and commercial fields. The *World list of future international meetings* will supersede the National Science Foundation's *List of international and foreign scientific and technical meetings.* It will be available from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. Annual subscriptions: Part 1, $7 in the U.S.A., $8.50 foreign; Part 2, $5 in the U.S.A., $6.25 foreign; single copies 70*c.* and 50*c.* respectively.

Library Technology

Under a grant from the Council on Library Resources, the American Library Association is planning a national service to provide accurate information on the quality of library equipment and supplies. The first step in the project, known as 'Library technology: a standards program on supplies and equipment', will be the collection and compilation of information regarding such standards as now exist for library supplies and equipment. This information, together with a report of tests at present being carried out, will be incorporated in a handbook. A free information service, answering mail and telephone inquiries, will be established by the Association and additional information will be published as a regular feature of the *A.L.A. Bulletin.* Long-range plans envisage the establishment of a testing laboratory and full development of research programmes.

Science Information Council

The American Association for the Advancement of Science reports that the National Science Foundation has constituted a Science Information Council of nineteen members to act as a consultant body to the Foundation's Scientific Information Service. Members of the new council have been appointed from among leading scientists, scientific documentalists, and others, to provide the information service with experienced advisers on the dissemination of scientific information and the communication needs of scientists, and on a wide range of technical skills. The object of the Scientific Information Service is to make scientific literature in all languages more readily available and to co-ordinate the various scientific information activities within the Federal Government.

Exchange of Librarians

The Library Association of Australia has inaugurated a scheme for the exchange of librarians between Australia and other countries for periods of six months or more. Applicants from the United Kingdom intending to work for at least two years in Australia can obtain assisted passages. Librarians interested in this scheme should write by air mail for application forms to Miss J. Hagger, Convenor, Exchange of Librarians Information Committee, c/o Baillieu Library, University of Melbourne, Carlton, N.3, Victoria, Australia.

Philadelphia Appointment

The announcement in *Aslib Proceedings* last April of a vacancy at Haverford College resulted in the appointment of an English librarian to the staff for one year. This arrangement has proved so successful that Haverford College wish, once more, to appoint a young trained librarian with skill in cataloguing for work in the college library during the coming year. Haverford is a small men's college (450 students) near Philadelphia. The library has a collection of about 210,000 volumes and a staff of eleven. Applicants, preferably women, should write direct to the Librarian, Haverford College Library, Haverford, Pa.

NEW MEMBERS

Corporate

Name	*Locality*	*Representative*
Clifford Bloxham & Partners Ltd	London	A. B. DeVos
The British Thermostat Co. Ltd	Sunbury-on-Thames	S. F. White
Frigidaire	London	R. Maillardet
Ghana Library Board	Accra	Miss E. Evans
IBM World Trade Laboratories (Great Britain) Ltd	Winchester	J. D. Black
Newmarket Transistors Ltd	Newmarket	D. Q. Fuller
Royal Technical College of East Africa	Nairobi	D. A. R. Kemp
Vernon, C., & Sons Ltd	London	J. Brittain-Catlin

Individual

Anthony, L. J.
Davison, Dr P. S.
Fricker, J.
Page, S. B.

EDITING AND RUNNING A HOUSE JOURNAL

ERIC N. SIMONS

Publicity Manager and Information Officer, Edgar Allen & Co. Ltd

Northern Branch Conference, Sheffield, 27th November 1958

WHY ever the subject on which I have been asked to speak was chosen for after-dinner I do not understand. After-dinner speakers are by tradition required to be jocular, brief and interesting. But house journals are a serious subject, and not to be laughed at. So I shall not be jocular, I shall not be brief and I hope my remarks will not be laughed at.

When, some forty years ago, my company decided to publish a scientific and technical house journal, the *Edgar Allen News,* everyone was enthusiastic except the older technical men about the place, who did their best to create feelings of alarm and despondency. It would not be worth the paper it was written on, they declared—I suspect that was because they knew who was going to edit it. Even if we managed to bring out one issue, we should then run short of material and have to stop publication. The technical and scientific stuff could only come from them, and they were not going to be associated with a mere rag, or let outsiders pick their brains, so we should come to a full stop again. In fact, all the stops were pulled out for our house organ before it started.

They did not say all this to our directors. They said it to the wrong man, which brings me to my first cardinal point.

If you have to produce a house journal, ignore hostility and get on with it. If you do your job well, the time will come when your worst critics will besiege your office carrying manuscripts they hope you will publish. I doubt if Mr Higginbotham is displeased when we print his annual report to the shareholders and do not even charge him for printing it, as *The Times* and other papers do! He knows we would not print it if we did not think it good enough.

Well, there we were, faced with the hostility of our colleagues and with a technical journal to bring out. My chief of those days was a gentle, rather nervous soul, and all this hostility alarmed him. However, we had a London consultant who knew his stuff, and I always thoroughly enjoyed a scrap against odds. So my chief, who had been technically trained, did a piece; and the London man wrote an article or two, which the technical wallahs called 'penny-a-line stuff'. Perhaps it was. But we still had not got enough. To fill up, I wrote a technical article on twist drills myself, after potting up all the textbooks I could find. Then I went to our former twist drill expert and said: 'Look, Mr So-and-So, this is what we're putting in the *Edgar Allen News* about twist drills. You had better let me know if it's sound, because if there are any howlers everyone will blame *you.*'

He snatched it from me, started to read it, yelled: 'My God, you can't say that! . . . No, no, that's wrong!' 'Well, what should it be?' I asked. He started to scribble in the right phrases, and by the time he had finished I had got an excellent article.

I can still remember the pathetic letter I received from my chief, who was on holiday in Arran when that issue came out. 'Who wrote that twist drill article?'

he asked. 'I *do* hope it's correct and has been passed by someone!' I reassured him.

Well, we are now well on the way to our 500th number, and never once have we ceased publication. Throughout slump, prosperity and war we have carried on, until now the *Edgar Allen News* is everywhere accepted as an authentic scientific and technical periodical. Eleven thousand copies of this twenty-four-page journal go out each month all over the world.

I have given you a hint as to how, gradually, we got the technical men to co-operate. But first let me tell you the principles on which we based our work. We decided to print nothing that a scientific and technical journal in the commercial field would not publish. We would not indulge in mere 'puffs'. If we published anything about our own products, it should be dispassionate, straightforward technical stuff, and we would leave other people to say the nice things about us. The directors rightly decided they did not want personal publicity except in so far as it had direct news value, such as new appointments to the Board; retirements; etc. We did not find ourselves faced, as one publicity manager of my acquaintance did, with the necessity of putting the chairman's photograph on the front page of each issue. Now and again Mr Higginbotham, in a state of complete absence of mind, manages to get a good photograph taken—not often, I am afraid—and about once every two or three years we use it to illustrate his annual report; but he has never asked for this. We put it in out of the kindness of our hearts, and because an impressive, concise and logical economic document, such as his report always is, makes many readers interested in the man who writes it.

We decided we would not have a cover, not because we could not afford it, but because our journal was meant to be read by men with little time to spare. We believed that if they saw an interesting article the moment they took the journal out of its wrapper they would be tempted to stop and read it, and then go on and read the rest. Events have proved us dead right in this respect. Whereas it took daily newspapers many years to learn to print news on their front page, the *Edgar Allen News* has been doing it from the start.

We next determined we would keep the technical experts always on tap but never on top. Many of our readers, though authorities in their own particular line, knew little about steel and the things we make from steel. It was no good 'blinding them with science' if they did not understand it. So we insisted that all our technical articles should be reasonably understandable by an intelligent reader in a different field. It was useless to talk about austenite, for example, unless you told your readers what austenite was. Dr Gregory, our chief metallurgist and research director, was not with us in those days, or we should have had little trouble in this respect, since he is a master of the lucid exposition of difficult subjects. But the technical man too often assumes that everyone knows as much about the subject as he does himself, and goes prosing on, in horrible jargon, unintelligible to all but the men of his own profession.

Our next decision, and I am convinced it was sound, was to refuse to print slovenly writing. We wanted the *Edgar Allen News* to be both easy to read and pleasing to read. I am not going to pretend we were perfect in this from the start. We were not. We learned as we went along, but I was never more delighted than when the chairman of a large British company told me that he liked the *Edgar Allen News* because it was always written in good English, which so many technical journals were not. You see, not all your readers will be illiterate, and those who are not will be offended by the barbarisms and solecisms that occur in so much technical writing. But as the *News* established itself so the influence of its editors over their commercial and technical contributors grew, until even the most autocratic of our former directors, when bringing in a few notes, would say: 'Of course, you'll trim up the English wherever it needs it.'

Our next and perhaps most important decision was that the best way of obtaining readership was to teach people how to use what they bought from us. It was not enough, we felt, to tell them what to buy and when they had bought it forget them until next time, or until they came in with a grumble—usually because they had not treated the goods properly. Our job was to see that they did not *have* grumbles, and that they got the best possible results from our products. We could do this best by telling them how to do so. In this way we prevented trouble and also made reading our journal both helpful and profitable.

You will always get folk telling you they would rather have a couple of extra salesmen than any house journal. What nonsense this is! The house journal is not a substitute for the salesman. It is an adjunct to him. It goes to thousands of people he would never get round to in a dozen lifetimes. Once a month (if it is a monthly), with unfailing regularity, it reaches the men you want it to reach, and tells them something about your company. No sales force, however strong, can visit eleven thousand people a month, and if they could, the cost would be so enormous that it would cover a dozen house journals.

One of the severest critics of our house journal in the old days eventually went on a journey to South America for us. He had to visit one of the largest copper mines right up in the Andes. After three days and nights in the train and a final journey on mule-back, he came to the mine offices up in the mountains. He was received with surprising readiness, taken straight to the office of the manager, and there, open on this influential man's desk, was the current issue of the *Edgar Allen News*. He was greeted by the words: 'So you belong to the people who publish this admirable little journal! I read it from cover to cover every month.' And this was no isolated experience of his, he told us. Thereafter no one was a firmer friend of our publication than our former critic.

Another early decision was that the *News* must appear with regularity. We have always worked on a three-monthly basis. One issue is actually at the printer's, being printed. Another is made up and ready. A third is in the form of pages of proofed material, but is not finally made up. If, therefore, I were to be knocked down by a bus or seriously ill, my successor could carry on without difficulty until he had found his feet. But this is less important than that readers should be able to rely on the regular appearance of the *News*. If we are dictatorial at all, it is in not allowing anyone, even Directors, to hold up the publication of an issue. Poor Dr Gregory is chivvied out of his life sometimes by messengers from us asking for the return of the page proofs he so generously 'vets', but he is extremely co-operative and we do not have to bully him for them more than once or twice a year, if that.

Well, we chose a simple, readable type, a simple format, and above all, a not-too-expensive paper. We know from experience that many copies of our journal go to men in the shops whose offices are not palaces of culture and rest. If you present them with a glossy, beautifully produced art paper magazine, they are afraid of dirtying it, so they put it on one side to be read later. It gets buried and forgotten. Our journal is designed so that it does not prick a man's conscience if he puts a greasy finger on it, or stains it with oil. He can fold it up and shove it in his pocket to read in bus, tube or train, without feeling that he is ruining a handsome production, and I have often seen men reading in these circumstances.

In a paper I gave to Aslib years ago I indicated how the manufacturer could help the librarian, and how the librarian could benefit by keeping trade catalogues and house journals. I do not propose to repeat all that tonight.

The editor of a house organ with limited funds has to get down to the hard bedrock of facts, dropping the experiments that fail. He must make his readers regard the journal as valuable, because if they do not, its publicity value will be negligible. The first thing, therefore, is to discover what they wish to read, bearing one important factor in mind. They must associate what they read with the house journal in which they read it, and with the firm that publishes the journal.

This is overlooked by many editors of technical and kindred house journals, who believe they serve the best interests of their firms by inserting pages of jokes, or jocular snippets cribbed from magazines.

The argument is that the heavy technical matter must be lightened. So it must, but there are better ways of doing it, ways that infallibly connect the lighter touch with the house organ concerned.

The real substance of any technical house organ is its technical news and information. Two schools exist. The one insists that a percentage of readers, with no technical knowledge or experience, have value as consultants and purchasers, and to present them with technical articles is to bore them. Therefore, says this school, never use a technicality without explaining it.

In my early days we were addicted to this theory, and acted upon it. The net result was that the articles became a mass of definitions. The non-technical men found them less readable and the technicians were bored and irritated by the explanations needless to them.

The other school, to which we are now less hostile, declares that technical men want good hard technical stuff, and no nonsense about it. The more it bristles with formulæ, diagrams, signs and symbols, the better they will like it, and the more dignified and reputable the journal will appear. It still remains true, however, that on your mailing list there will be a large percentage of non-technical readers, and readers who, though partly technical, are not necessarily specialists in the particular subject with which the house organ deals. All of these have to be catered for. *We* favour a working compromise, which has proved most effective.

In every issue we insert material for both types. Articles for the non-technical men take the form of concise illustrated histories of famous engineers, inventions or technical objects; or, alternatively, simple introductions to particular technical subjects of the journal. At the moment we have a series running entitled 'The structure of steel' which takes the science of ferrous metallurgy from the simplest stage, and in language of essentially non-technical character gives the non-technical man an insight into and comprehension of steel.

For the technical man, specialist articles by specialists are printed, explanations of terms being introduced only when these are local, of restricted application, or peculiar to the industry concerned.

The house journal proper is for external, not for internal, use. If it prints accounts of social activities among its staff or workpeople, it is not a house journal at all, but a works magazine, which is a quite different thing. If it contains matter for outside readers interspersed with gossip for home consumption, it is neither the one nor the other, but a regrettable blend of the two. Yet all three varieties are sometimes erroneously called 'house journals'.

The true beginning of a house journal lies in the mailing list, i.e. the names and addresses to which the journal is sent. Customers past and present should form the nucleus of this. Then prospective customers, carefully chosen, should be added. Overseas and continental agents and branch offices should be asked to supply lists of names for inclusion. Travellers will have others. Thus, a good list can be built up to receive the first issue. If the journal is well written and practical in scope, further names will add themselves automatically, and the difficulty will be to choose and eliminate rather than to extend.

It is advisable, also, to include in the list the various public libraries in those towns where the market for the product lies, as well as universities, technical schools, engineering institutes and clubs, etc. When sending out the first number, a request should be made for the journal to be placed on file in the libraries of these different institutions for the benefit of students and members.

Designing the house organ

The house organ's name should be crisp, easily remembered, and should embody in itself either the name of the issuing firm or some reference to the product.

Period of publication

How often a technical house journal should appear is not readily decided. Some journals have no fixed publishing date, and appear only when enough material is got together to warrant printing a complete issue. This method prevents the house journal from interfering with any rush of other work, and obviates filling up with 'padding'. Nevertheless, it is not suitable for the journal covering a wide range of technical manufactures, or issued by a large and influential company. Such a house journal has to suggest stability and regularity. Intermittent and uncertain publication militates against this.

Size

Size is a matter of some dispute, but practice and economy suggest one of the standard quarto sizes. A journal of this size can be folded lengthwise and slipped into the breast pocket; sent out flat in an envelope; or folded in a wrapper; it carries illustrations well, and will probably take existing blocks better than a smaller size; it has dignity, allows of better display, and of better editorial arrangement of articles. I recommend it without hesitation.

Number of pages

No hard and fast rule can be laid down concerning the number of pages. This will depend upon the number and variety of the products made by the issuing firm; on the fertility of invention and ingenuity of the editorial staff; and on the readiness with which the manufactures lend themselves to treatment. The pages can vary in number, as long as they are in multiples of four, and as long as they make up a reasonably impressive journal. It will usually be found that the deciding factor is the postage charge.

Illustrations

Illustrations are essential. Care should be taken, however, to place a caption or descriptive title under each illustration. Then the man too busy or too lazy to read the text gathers something of the contents almost in spite of himself, since even the laziest will look at the pictures.

Advertisements

The proportion of advertisements to text needs careful consideration. It is better to carry some advertisements of one's own goods, so freeing the text from 'puffs' or blatant self-praise. Any statement about a commodity which is meant primarily to advertise it should be turned into an advertisement. Some house journals are spoiled by too large a proportion of advertisements to text.

Accepting outside advertisements is, on the whole, advantageous, but has its drawbacks and must be handled carefully. The advantages are (*a*) a considerable reduction in cost; (*b*) a closer resemblance of the journal to a professional publication.

Never accept *too many* advertisements from outside. Do not sell the space below cost, i.e. below the cost of printing and posting a page of the journal, which is a matter of simple calculation. Make a reasonable profit on the advertisements, and charge on circulation, exactly as a professional journal does. Do not badger customers or suppliers to advertise. A reasonable maximum proportion of advertisement pages to text is one page of advertising to every four of text. Keep all advertisements to the end pages, not scattered about as annoying interruptions of the reading-matter.

Subscription charges

A nominal subscription charge for the journal may be fixed, not with a view to making a profit, but to give a good excuse for eliminating undesirables. The subscription charge serves another useful function. People are more impressed by a journal which carries a stated charge per copy clearly printed on it. The price removes the suggestion of amateurishness, and increases prestige. If they themselves get it for nothing they feel flattered.

To make a serious attempt to collect subscriptions would cost more than the total amount likely to be received, but regular subscribers should be notified when their subscription expires. Most people will receive their copies free.

Dispatching

In the dispatching of a house journal practice differs. Some are sent out flat in envelopes, others folded in wrappers. The former method has the advantage of prestige and security, but it costs more. The other method is efficacious and cheaper, but only too often the journal arrives in a battered unsightly condition. Addressing is done on a machine for the purpose. The colour and style of the envelope can be varied at will. It can be made to carry an advertising message, and a space for the reader to correct his address. This keeps the mailing list up to date.

Printing a technical house journal in more than one colour does not often pay. The results are, in fact, lessened because the journal at once begins to look as if it had been prepared by the publicity department, whereas it must look technical or professional. This does not mean it must appear ugly or dull.

Type and paper

Types should be uniform and of one family. Nothing beats Roman 10 pt. for text, with headlines and sub-headings of the same face in the bold letter. Advertisements may, of course, be set quite differently, but even here some uniformity is advisable.

Good effects can be obtained with an ivory-finish imitation art paper, using half-tone engravings of 133 screen.

Two final points I must stress. The house journal should never be regarded solely as a selling medium. It is not that. It is a publicity medium, designed to make selling easier for the salesmen. Too many promising house journals have been abandoned because they did not immediately produce direct orders for machines or commodities.

Secondly, works magazines for internal use, of which I have also had some experience, present an entirely different set of problems. I have therefore not attempted to deal with these tonight. They would need a separate paper.

Like a somewhat bulky water spider, I have skated lightly over the surface of a big subject. All I need say in conclusion is that if any point needs amplification or has been left untouched, I will gladly deal with it in the discussion that I hope will follow.

METHODS OF RECORDING LOANS

B. WARBURTON, A.L.A.

Research & Development Dept, The United Steel Companies Ltd

Northern Branch Conference, Sheffield, 28th November 1958

MY talk about methods of recording loans is going to be limited to those used in special libraries, although the purpose for which a loan record is made is the same in both public and special libraries. Basically the librarian wants to know (1) what items are out on loan, (2) to whom these items have been lent and (3) what date they should be returned. A public librarian is eager to find a system which, whilst giving these essentials, cuts down to a minimum the time spent by a borrower in waiting for his ticket. Thus various systems have been introduced, the Westminster Token System, photocharging, and audiocharging, as variants on the more usual Browne system.

Most of the publications loaned by special libraries are sent and returned either by internal or external post, and rarely by the borrower himself, so the difficulty of queues forming at the issue counter does not occur. Rarely are users of a special library made to produce tickets for loans or limited to a number of items allowed at one time.

The problem facing the special librarian is to find a system which is easy and accurate and from which an item on loan can be traced quickly. Also most of the material, particularly current periodicals and new publications, must be kept circulating to reach the people who want to see it as soon as possible. As one can trust few readers to return publications quickly, one must have some easy method of picking out material that is overdue. Opinions vary over the loan period which should be allowed. In some cases current periodicals are loaned up to three days, sometimes up to a week. However, I think that the problem of circulation must be left to Miss Thornton, who is giving us a short talk on this later.

I have been aware for a long time that the systems used at The United Steel Companies Limited consume a lot of staff time although the records are accurate and rarely let us down. The preparation of this paper has given me an opportunity to compare our methods with others and I think that the best way to deal with the subject is to tell you briefly what our systems are, their disadvantages and advantages, and to give you an outline of any new methods I have found.

To be perfectly frank, we have three different systems in use at United Steels at the moment. In the Magazine Room, in which we keep our trade periodicals, we use a visible index, with cards arranged in alphabetical order of title and then in date order. On these cards is entered a fixed circulation list. When an item is loaned the date is marked on the appropriate periodical card opposite the person's name to whom it has been sent. We also have a sequence of cards arranged in borrower's name order, upon which an abbreviated title of the periodical is given, together with the date of the periodical, the date it was sent out and also the date it is returned. These cards are checked for the overdues which are written for each week. When the magazine is returned it is marked off the borrower's card and then crossed off the visible index.

In the library proper we use two further systems. Firstly for all society periodicals, pamphlets and books we have a catalogue card 6 in. × 4 in. typed at the same time that the publication is catalogued. On the loans card we give the accession number, author, title and date. Also typed on this card are the names of the people to whom it is to be sent. If the borrower collects the publication himself he is asked to sign the loans card. Each morning an assistant counts the number of loans and enters the accession number and date on to the borrower's card. The loans cards are arranged in accession number order and filed in weekly sequences. The second file is in borrower's name order. We find this useful as we have a permanent record of what each person has had out on loan.

For our system of material borrowed from other libraries, we have yet a third method. There we go back to the ledger system. Each inquiry which cannot be satisfied by our own material is entered immediately on receipt, and given a number. The author, title, borrower's name and department are entered. When we apply to a library for loan of this particular publication the name of the library is entered in an abbreviated form. Thus we have a record of all the places we have tried. There is a column for receipt of the publication, and also another for the date it was due back. The assistant also keeps two files of letters, one pending, in which the request for material is filed, and the other awaiting return, to which the letter is transferred when the publication is received. She keeps a careful check on the date the publication is due back, and asks for its return approximately two days before. When the publications, either from our own stock or borrowed items, are sent out on loan outside the laboratories, we write what we call an 'advice of loan slip' of which we keep a carbon copy. On this slip we write the borrower's name and department, and brief details of the publication sent on loan. This is used as a guide by the postal department.

Now for the disadvantages of our system. I have already told you that all three methods are fairly accurate, as accurate as I think it is possible for any library records to be, but they do involve a lot of staff time. For instance, in the Magazine Room and the library proper each item is double entered, once on the borrower's card and once on the loans card. If the publication is sent outside the laboratories and an advice of loan slip is necessary, that means *three operations*. The cards themselves are rather thick and quite expensive and take up a lot of space in the catalogue drawer. Also when publications are in the library, the loans cards are placed inside, and as you can imagine, they can quite easily drop out. Our main difficulty, though, is with overdues. We do lend a lot of publications, both periodicals and library material, and of these I should say about one-third have to be written for at the end of the loan period. It takes four girls approximately half a day each per week to send out the overdue notices. We send a first, second and third reminder. If the publication is not returned then the cards are given to me and I ring the borrower. I am also worried about the amount of time spent in the Magazine Room. The visible index is a useful thing to have, but as we keep borrowers' cards as well, when a publication is returned it has to be crossed off the borrower's card, off the visible index, marked on the visible index card to the next person and also on the borrower's card.

I want some scheme that will eliminate these disadvantages, save staff time whilst still being accurate, and eliminate the writing of overdues. The most impressive scheme I have studied is that used by the Kodak Research Library. They use a method of continuous form stationery and an Alacra register manufactured by W. H. Smith & Son. The type of stationery used is a commercial type supplied in flat packs of interfolded forms. Each pack contains up to four sets of different colours according to the number of carbon copies required. The forms are available in several sizes, the smallest being 6 in. × 4 in. They are pack loaded into a register in which successive forms are guided between fixed sheets of carbon paper under a window exposing a single form. The form is moved along by a sprocket wheel which engages with holes already punched along the margin. Details of the publication loaned, and the borrower's name, can be written on the exposed form, and in the small portable register model a handle is turned to eject the paper and the form torn off. Of the four copies, the first could be used in the place of our advice of loan slip, the second, third and fourth copies pinned together and placed in accession number order in the loan scheme. When the loan period has expired, the second copy, which would probably be in a different colour, say yellow, could be detached from the other two and sent to the borrower with a covering stencilled note. At the end of a week the second notice, of yet a different colour, could be sent. The disadvantages as far as I can see appear to be as follows: (1) There is no permanent record of those to whom a book has been sent. This could be eliminated if one wrote the initials on the date sheet of the book or pamphlet. (2) The cost of the portable register itself is £7 10*s*. This would, I think, be large enough for most special libraries. There is a larger desk model available at £30 which holds the completed forms as well as the unused forms, and which can be turned by the touch of a lever. It is necessary to buy a large amount of stationery at one time, approximately 20,000 forms. They can be printed to whatever size you require. Extras, such as printing 'first overdue notice' and 'second overdue notice' on the carbon copies can be given without extra charge. The Kodak Research Laboratory bought 40,000 of these forms in 1951 at a cost of £70. (3) It is necessary to write out each loan instead of using an already prepared loans card. (4) The forms themselves are flimsy. With my suggested method three would be placed together in the file under date order. They are, of course, only meant to be a temporary record.

In preparation for this talk I wrote to several special libraries, including Metropolitan Vickers. They kindly sent me details of their scheme which appears to be basically similar to the one which I have just described. They, however, use three sets of thin cards. They file under (*a*) material, (*b*) borrower's name, and (*c*) date borrowed. The overdues are written each day by a typist. I am told they are quite satisfied with the scheme.

I also heard from the librarian of the British Institute of Management. His letter rather worried me because he told me that they had changed over from this type of scheme in the last few months. In his old method they used three thin cards on which the borrower's name was written on the left-hand side, author and title on the right. The cards were filed firstly in alphabetical author sequence, the second and third copies being filed in the second sequence by date. When overdue notices were required the second card was used. He points out the disadvantages as follows: (1) It is necessary to have two filing operations for each issue and each discharge. (2) The human error element is therefore doubled and mistakes occurred rather too frequently. (3) The bulk and cost were considerable. His new method is based on one used at the London University. A single card is used, along the top of which are printed numbers representing loans periods. A coloured tag is attached according to a predetermined system and the cards are filed in one alphabetical sequence. The advantages of this scheme are (1) that the bulk is less, (2) they have one sequence instead of two, (3) human error is halved and (4) overdues in reserve can be seen at a glance. From the different coloured signal tags the date a book to be returned can be seen and the tags can also be used for reservation.

There is an unusual system in use at the Metal Box Company Library in London. It consists of a continuous belt of rods ¼ in. diameter and spaced ½ in. apart, rotated by knobs on rollers at either end. There is also a continuous belt of canvas fixed at each side, marked off in dates so that each mark falls exactly opposite a rod. To show four months' loans at a time, this belt is marked in weeks, i.e. January 1, 2, 3 and 4. The loans cards giving the usual details are indented along the lower edge to fit on the rods. Loans cards for one week are fitted along one rod, opposite the appropriate marking on the canvas belt. The cards can be arranged in whatever order is preferred.

In fifteen minutes I have only been able to pick out a few of the differing methods of loans. It has not been possible to go into much detail about each one and I have missed out schemes which seem similar one to another. I shall be very pleased to hear your criticism of the schemes and also of our own.

DISCUSSION

MR M. I. SCOTT (C. A. Parsons & Co. Ltd) said that he had been very interested in Miss Warburton's remarks because, as a scientist newly involved in this field, he had been faced with the problem of choosing a loans system. A first appraisal accompanied by a visit to the Atomic Energy Research Establishment at Harwell had led to the adoption of their scheme which consisted of a portable register producing four flimsy copies in different colours. Later, further visits revealed that most special libraries were in the process of cutting down the number of copies and it was also clear that filing flimsies was time-consuming and troublesome. As a result, it had been decided to alter the proposed scheme to the use of a portable register with two manila cards. Experiment had shown that it was possible to obtain a satisfactory copy on the second card, both cards being fairly thin, using a ball-point pen. The two copies would be filed under author or title of journal and date order.

MR P. S. WALKINS (Rubery, Owen & Co. Ltd) suggested that a system of recording loans that employed three cards was the ideal, and certainly covered requirements needed in connection with Security Classified documents. One sequence of cards should be in date order, the second sequence in alphabetical order by reader's name and the third sequence of cards should be in classified order. This was of great help in answering subject requests, since all items on 'de-icing', or on 'hydraulic valves' would come together in one place. If this third sequence was filed under accession number order, then it would mean much consultation at the catalogue in order to find out which items on a particular subject were actually on loan.

If expedient, the sequence under the reader's name could be eliminated.

MR W. H. HOLMES (Blackburn and General Aircraft Ltd) asked the speaker to say how efficacious was her system of written loan reminders.

MISS WARBURTON replied that, in general, the written reminder was usually effective and, if not, a telephone call as a last resort generally brought about the return of the loaned item.

THE USE OF TRADE LITERATURE

C. C. LINSTEAD

Edgar Allen & Company Ltd

Northern Branch Conference, Sheffield, 28th November 1958

IN a paper by a then prominent member of the Northern Branch of Aslib, who is not unknown to many of us here, given to the Scottish Branch in 1953,[1] the author deplored the use of what he called 'a starting rail' in the writing of papers and reports, alluding metaphorically to the early aeroplanes, to enable the writers to get off the ground, before embarking on what they hoped would be steady, level flight of fact or fancy. This he would probably apply to speakers as well, but I make no excuse for building for myself what almost amounts to a launching platform, and extending the metaphor to the more up-to-date rocket and IRBM and ICBM rather than the early aeroplanes, before letting go and venturing into unexplored space, which is in this case 'The use of Trade Literature', for that is the region I have been told to explore this morning. Unexplored it certainly is for, like all good research workers, my first reaction in starting to prepare the paper was to examine what others had written about the subject. Precious little! I found that most of the works on special library technique dealt with the subject in a paragraph at best and in two or three lines at worst. If I had strung all the extracts together and amplified and extended them I should not have occupied more than about five minutes of your time. So most of what follows is either original, empirical, borrowed from other practitioners, pinched in other words, or *ad hoc.* For the benefit of those who have not had a classical education, I will explain that *ad hoc* means in effect designed to fit a particular or peculiar set of conditions.

How to establish a collection. This presents little difficulty. For a collection of *local* catalogues the Local Chamber of Commerce will probably help by providing a list of firms, which will give some idea of the manufactures of local industry and the librarian or information officer can then approach the individual firm concerned direct; with a request also to be kept up to date as new editions are published. Or if you work in Sheffield or Liverpool or some such up-to-date district, the local library organizations would help.

Next the various trade associations, such as the Copper Development Association, Aluminium Development Association, Zinc Development Association, Zinc Alloy Die Casters Association, Light Alloy Development Association, British Steel Founders' Association and so on, will readily add your name to their mailing list and send the items of literature as published. Then firms like The Mond Nickel Co. Ltd, Henry Wiggin & Co. Ltd, who publish a wealth of literature, which is all freely available, on nickel and nickel alloys will gladly send on request what is available in their field and keep your collection up to date from time to time by sending new material as it is published.

There are also several periodicals now being published which consist entirely of announcements of new products in the particular field which they cover and include a specially printed form, on which further information on the particular products may be requested. Examples of these periodicals are *Power and Works Engineering, Chemical Processing, Production Equipment Digest, Industrial Equipment News*. Most of these periodicals are available free on application to the publishers by suitably qualified personnel. Then, too, most of the technical journals, American ones especially, insert a prepaid postage card containing reference to the advertiser's announcement on which further information on the products mentioned may be requested.

So you see that with all these facilities available it is not difficult to start a collection of trade catalogues. It may take a little time but will prove worthwhile once it is established.

Now it is obviously no good starting a collection if the items are all just bundled into the bottom of a cupboard; they must be arranged, indexed, catalogued so that the information contained in them may be readily available when required.

The arrangement presents a little difficulty because of the enormous variation in size and shape of the material, but I will say more about this later. Many firms bind catalogues of all their products into one volume, others publish a separate catalogue for each single manufacture so that the necessity for indexing is readily apparent. The most obvious way to arrange catalogues would be by subject so that the catalogues of all similar equipment and material would be grouped together. This scheme immediately falls down when it is realized that very few companies, if any, confine their production to one single product and the products tend to become more diverse as time goes on.

My own company, for instance, manufacture high-speed steel, die steels, carbon tool steels, mining drill steel, mandrel steel, stainless and heat resisting steel, engineers' small tools, tungsten carbides and other metal powder products, about twenty or so qualities of steel castings, permanent magnets, crushing, grinding and cement-making machinery and have wholly-owned subsidiaries which manufacture ball mills, ring roll mills, separators, disintegrators, dryers, dust collecting plants (not aspidistra), magnetic chucks and work holders. Fortunately, we do not publish a single catalogue containing all these products but they are collected into allied groups and one publication is used for each group.

As the arrangement by subject groups becomes impracticable the other obvious method is filing under the firms' names and in my experience this has worked out quite satisfactorily. It involves the use of more cross references in the index but the arrangement of the material is simplified.

The arrangement may be in pamphlet boxes suitably alphabetically arranged by name of firm on shelves, or in vertical filing cabinets, subdivided and similarly alphabetically arranged by name of firm. Envelopes or manila folders are suitable containers for each firm's catalogues.

For indexing the card bearing the name of the firm would contain a list of all the firm's products either by name or according to the application or use. A single entry on other cards will describe each item and refer to the box or drawer in which it is contained.

Thus suppose that we have a four-drawer or a series of four-drawer cabinets in which the material is arranged. The drawers would be numbered or labelled according to the information contained therein, 1, 2, 3, 4, etc. or A–C, D–G, H–M, etc. according to the fancy of the user and the contents of the drawer. Each set of catalogues from each of the firms would then be arranged in separate envelopes or folders and labelled A1, 2, 3, B1, 2, 3, etc. according to the initial letter of the name of each firm. These envelopes would be referred to on the index cards by drawer number or letter and the actual number on the envelope. Thus (1) A1 or 1B3 as the case may be.

This is perhaps best explained by taking an example. Thus assuming the first card in the index is Edgar Allen's with the number A1 (naturally).

This card would bear the full name and address of the firm at the top and a list of all the Edgar Allen products including especially all the various trade names used by the company: 'Stag Major', 'Stag Special', high speed-steels, 'Maxilvry' stainless steels, K.B. pulverisers, 'Stag' jaw crushers, etc.

Then further cards would be made out for all the items contained on the firm's general card. These cards would be arranged alphabetically under Trade Names—'Stag', 'K.B.', etc. and further cards would be found under High Speed Steel, Stainless Steel, Pulverisers, Jaw Crushers and so on. Ultimately a useful index of trade names as well as lists of the manufacturers of high-speed steel and stainless steel, etc. would be available and might prove useful.

Collison, *Cataloguing arrangement and filing*[2] suggests that trade marks might also be described verbally and indexed under their most prominent feature. He mentions 'Stile with a gate' for example and recommends that the most prominent feature in the trade mark should be indexed with the subsidiary feature also mentioned giving reference, of course, to the name of the firms owning the mark; it might be worthwhile to consider this in your sphere.

Published histories of companies, apart from their historical interest, also contain much information on the products past and present of the firms whose history they tell and indexed references to trade marks past and present, for example, may prove useful on occasions.

I have assumed hitherto that all trade literature will be dealt with separately from the main catalogue and I think that this is generally advisable if the collection grows into any reputable size. Separate storage, indexing and cataloguing is desirable, though some of the large bound catalogues such as those issued by the chemical laboratory equipment manufacturers are sufficiently well defined to be housed and classified with the books and catalogued in the main catalogue with the briefest reference in the trade literature catalogue to give an indication of their location. The same is true of the publications of the trade associations which deal with single items or closely allied products, such as Copper Development, Zinc Development and Nickel and its alloys.

An important adjunct to most trade catalogues is the price list. Prices fluctuate very considerably and frequently and for this reason they are usually published separately from the catalogues. I feel that if a firm price is needed on any occasion it would be better to write for this to the firm concerned rather than rely on what would probably be an obselete price list. It is, of course, advisable to keep all the information, price lists, etc., as near up to date as is possible but in a thing like prices it is better to err on the side of caution.

I mentioned earlier that there is great variation in size and shape of trade catalogues which may range from single octavo sheets to large bound books. It may be that we can do something about this. If we have any influence with the publicity departments of our companies we may be able to strike a blow for standardization by drawing attention to B.S.S. 1311 : 1955 (Manufacturers' Trade & Technical Literature) which not only gives the range of recommended standard paper sizes but indicates, in general terms, some idea of the sort of information a trade catalogue should contain. This is well worth study by those who have a hand in the preparation of trade literature.

If one's influence is sufficiently strong one could also recommend not only that all the firm's catalogues should conform to standard paper sizes but that they should all be of the *same* standard paper size. Then they could all be contained in a stud binder and many of the difficulties of storage would be eliminated and life for one or two librarians would be so much happier.

REFERENCES

1. ERIC N. SIMONS. The writing of English in abstracts and reports. *Aslib Proceedings*, vol. 5, no. 2, May 1953, p. 121.
2. R. L. COLLISON. *Cataloguing, arrangement and filing of special material in special libraries*, Aslib, 1950.

DISCUSSION

MR P. R. DAY (Wool Industries Research Association) asked if it was Mr Linstead's experience that the response of advertisers to requests for 'further information' through the Reader Service Departments of such periodicals as *Production Equipment Digest* was either to send rather inadequate literature lacking the all-important price-list or to send a sales representative.

MR LINSTEAD replied that the literature received was generally adequate: he always made a point of seeing any salesmen who came, explained the position, and asked them for literature.

MR. M. I. SCOTT (C. A. Parsons & Co. Ltd) asked if there was an easy way of building up a trade literature file without writing to each manufacturer. The idea in mind was the possibility that there existed agencies who would do the circularization easily, cheaply and conveniently (e.g. Buyers' Guides, etc.).

MR GEO. H. DAVISON (Swinden House, Research & Development Dept.) asked if Mr Linstead had ever considered sub-dividing his holdings of trade literature and placing sections of them elsewhere than in the library itself. For instance, in Swinden House Research and Development Department, they had a fairly large drawing office where drawings were turned out in considerable numbers in connection with engineering projects suggested by the development engineers. All engineering catalogues likely to be of use, therefore, were passed on to the drawing office and were kept up to date there.

MR P. S. WALKINS (Rubery, Owen & Co. Ltd) suggested that trade literature should be filed in classified order. If the items were small and flimsy, then they should be placed in pamphlet boxes. To him it seemed illogical to have several sequences for different types of material, reports, standards, trade literature, books and pamphlets, etc.

INDIVIDUAL ABSTRACTS VERSUS BULLETINS

W. R. MOSS, B.A., F.L.A.

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Northern Branch Conference, Sheffield, 28th November 1958

I DO not intend, in this paper, to confine my remarks to the narrow ground of abstracts versus bulletins. The two are complementary rather than in rivalry. It is almost impossible to compile a bulletin without recourse to 'individual abstracts' or titles, albeit temporarily. There is the added complication that probably the majority of library bulletins do not contain abstracts. I apologise for the fact that I have not prepared an O. & M. survey on the comparative economics of the two since any full discussion needs this. For those who are interested in an economic method of producing bulletins and abstracts, there is a recent article by Liebesny,[1] which should be studied. In this paper I wish to examine, briefly, the use of abstracts and bulletins in laboratories and to suggest how, from the chemical library/information standpoint, they could be improved. There is nothing original in what I have to say, but its restatement will not do any harm.

The great quantity of scientific literature demands some form of condensation. Even in highly specialized fields of chemistry no one can hope to see all the literature that exists. Economics of cost, time and labour prevent us supplying a copy of everything to everyone. Thus, to attempt to compensate for this, to the flood of originals we add an equal flood of indexes, abstracts, lists, bulletins, bibliographies, or whatever other name they may have. In spite of these variations of name, it would be a mistake to believe that any clear-cut distinction can necessarily be drawn between them, or that it exists in practice. Thus, *Chemical Abstracts* is a fortnightly bulletin; the *Engineering Index* is issued both in card form—'individual abstracts'—and as an annual volume, also with abstracts; *Nuclear Science Abstracts* is also duplicated by a card service; many 'information bulletins' are no more than lists of titles of articles in periodicals; the corresponding, and probably more important, equivalents for reports are known merely as 'report lists'.

Abstracts and bulletins exist then to reduce a great quantity of literature to more manageable proportions. The abstract can do this either by summarizing the information in the original, even to the extent of its being a substitute for that, or it may serve only to indicate an original. The bulletin, even an abstract bulletin, serves rather to point to or indicate an original. A title bulletin cannot do anything but this and is of use only in so far as the original article or report is readily available when required. Without that, from the chemical point of view, it is useless.

For our purposes, here, it is necessary to concentrate on the indication, pointer or 'signpost' functions of abstracts and bulletins. The function of the abstract can be regarded as Reference, the bulletin as News. The main emphasis in the production of a news bulletin is speed. Thus, the incorporation of abstracts in bulletins will tend to delay publication for an abstract takes time to prepare or even to copy in the case where one is provided with the original item. Unless, therefore, you have more typing capacity or photocopying facilities than is usually the case, the bulletin may not fulfil its main purpose, which is to enable the chemist to scan a concise and up-to-date programme of current literature immediately available.

These 'news' bulletins may be compared with the headlines and captions of a newspaper and they have something of the same purpose—to attract attention, in this case to selected technical items. There is a good deal which libraries could learn from the world of journalism in the matter of presentation and layout of news bulletins. At the present time most technical libraries are producing a weekly or fortnightly bulletin recording contents. The nearest commercial equivalent in the chemical field is *Current Chemical Papers* which contains titles but not abstracts, but this is a monthly publication and most libraries can present equivalent bulletins of their own holdings before this journal appears. It may be doubted, however, whether adequate use is made of it in selecting recent articles in those journals not taken in the library. Most librarians seem to prefer to wait for *Chemical Abstracts*, but here the delay in publication from the 'news' point of view is considerable. Perhaps one of the reasons for the reluctance to use *Current Chemical Papers* is unattractive layout, for example its lack of *Chemical Abstracts* captions—i.e. article titles in heavy print. This comparatively minor improvement would much improve its scanning value. It would raise the price but not, I think, excessively.

There are several reasons why we cannot rely on bulletins alone. Adequate scientific information demands an abstract of fair length. This must be available to the scientist as a permanent and convenient source of reference. In spite of its high 'news' value, the bulletin does not fulfil these conditions. Once a bulletin has been published over a period, even to find items known to be in them takes a good deal of time. The subject sequence is broken too many times by the chronological sequence. Even with a frequently published index to a bulletin series it is slow going. The form of record must be flexible enough to accommodate fresh information at any point and this the bulletin cannot do. We need flexibility also because successful research and development in an expanding economy demands rapid solution of technical problems and this, in the laboratory, means rapidly changing projects and advances into new fields of work. Unfortunately, the pattern of publication rarely, if ever, coincides with the changing pattern of work of any particular laboratory. Hence, it is necessary to build a reserve of reference information, to have a record not only of what has been done in the past and is being done in the present, but also to have a stock of 'likely' information for the future. The chemist needs this also from the personal point of view of keeping abreast of the particular speciality in which he has been trained.

To bring like material together over an indefinite period demands a separate—individual—record for each item in the manner of the orthodox library catalogue. It is, in fact, filling the same function but at a more highly specialized level. Consequently, it involves one in all the tortuous problems of subject indexing and classification and either cross references or multiple, unit cards. Whereas the bulletin can manage with a few simple captions for subject headings, and these, generally, broad enough to ensure a one-place classification—even *Chemical Abstracts* manages on only thirty-one—unless one is willing to tolerate a great number of cards collecting behind any one heading within a short period of time, many more subject headings, and a complete system of cross references will be required for an abstracts collection.

In theory 'individual abstract' cards have the advantage that they can also be distributed to individual scientists so that they can keep personal files. In practice, it is not quite so simple. A selection has to be made and this takes time. Also, scientists' time is too valuable to be spent on filing.

Consider now the storage problems of 'individual abstracts' in the library/information office. In physical form, the orthodox card cabinet is an unsatisfactory vehicle for rapid reference. Each card hides the next; the top drawers are too high; the bottom ones too low; you cannot sit and browse in comfort. The sheaf or loose-leaf folder is a much more civilized device. It cuts duplicating costs; it enables you to type five or six entries from carbons. Comparatively little information can go on standard cards. To do anything with a 5 in. × 3 in. card it has to be printed, as for example the USAEC cards. Even on an 8 in. × 5 in. card, typescript will allow only a limited number of words. Compare the dreary orthodoxy of abstracts on library style catalogue cards with the loose-leaf Interscience *Resins, Rubbers, Plastics* Literature Service on 9½ in. × 6½ in. sheets. On these, it is possible to print not only abstracts but also graphs and diagrams.

From the point of view of scientific progress, however, physically separate abstracts have the fault that, if left to accumulate indefinitely, recent items are masked among the much greater number of earlier items. It is possible, of course, within each subject division to file in reverse date order, but is this often done? Nor is 'weeding' satisfactory. The time taken to locate a selection of cards to be discarded, when these are scattered throughout a file, is far too great. It is much better to wait until there are enough entries at any single heading to enable them to be photocopied and distributed, as necessary, as a subject list.

In practice, to get a reasonable cumulation in a reasonable period would probably mean classifying abstracts less intensively than is now fashionable. I suspect this would be no loss. Moreover, by restoring the separate abstracts to printed page form we are restoring something of the scanning value of the bulletin. The ordinary printed page is a much more effective visual aid than the card catalogue. It is true that after a time the problem of looking through several lists on any one subject will present itself again, during searches, just as it did with bulletins. But now the problem is somewhat simpler for the number of lists will be fewer and each will be devoted to one subject. Also, recent work would be separated from earlier work. To scan half a dozen or so of these subject lists when making a search would take much less time than looking through the corresponding number of separate card abstracts. In any case, it is time we learned some lessons from American index publishers, on the art of cumulation of indexes. (I hope, also, that before very long, someone will manage to produce photocopying equipment simple enough for laboratory office use, which will enable us to photocopy the area of a single abstract, or even title, at full or, at any rate, readable size, will store this in the camera while other and similar photocopies are being made, and will then, when the necessary number of items has been obtained, provide a negative from which a page may be printed.)

Continuous cumulation of specialized lists would mean that, at any time, there would be far fewer items in the card abstracts catalogues. The fact that the numbers of cards have been cut drastically and that one is no longer faced with the prospect of indefinite growth should make it possible to use 'visible index' types of office filing rather than the orthodox and obscure catalogue cabinets.

I suggest also that the titles, subject headings, labels, signposts or whatever they are called, by which abstracts and the proposed lists are filed should reflect much more closely the various projects on which the laboratory is engaged than is the case now when, as a rule, we are using classifying and indexing schemes designed for the whole field of literature and, consequently, poorly designed for rapidly changing scientific specialities. Cumulation and printing should then be timed to coincide with the progress and eventual completion of a laboratory project. The work, in fact, should be regarded as much a part of the project as the writing and publication of the interim and final reports.

I wish to conclude with a brief reference again to the problem of the quantity of scientific information. There is a general tendency at the moment to aim at 'comprehensive' (i.e. 'complete') indexes, abstracts, etc. This has long since ceased to be possible. You cannot now hope to capture everything written on a subject in the time available to you. The aim must be to select and record as quickly as possible only the minimum necessary information to serve as indicators to the real information—the scientific content.

REFERENCE

1. F. LIEBESNY. *Aslib Proceedings,* 1958, vol. 10, pp. 38–9.

DISCUSSION

MR M. I. SCOTT (C. A. Parsons & Co. Ltd) said that whether or not the scheme that he was about to suggest could be adopted depended on the firm's attitude to photocopying. The question of copyright also had to be considered. If these difficulties could be overcome, then the circulation of photocopies of title pages of periodicals was a measure which promised some economies. The recipients obtained up-to-date advice of what new journals were available in the library and could follow this up as they thought fit. No originality for this idea was claimed—it was, in fact, mentioned in the Aslib *Handbook of special librarianship* in several places.

MR P. S. WALKINS (Rubery, Owen & Co. Ltd) suggested that the average user of special libraries did not really like reading abstracts, and because of this the 'expanded title' type of entry was better. He recommended that a certain number of headings should be adhered to, that all entries should be put under the nearest applicable heading, and that these headings should be arranged in the bulletin in straight alphabetical order. It seemed to him that the advanced worker would be able to evaluate between similar articles in different journals merely through the title of the journal itself. Much time could be thus saved by avoiding the necessity for writing a formal abstract.

MR W. E. FULLER (British Steel Castings Research Association) said that he deplored Mr Moss's statement that one can never be complete in coverage of one's field. Over the years Mr Fuller had heard this statement from both sides of the Atlantic, but it just was not true. If anyone cared to visit the B.S.C.R.A., in Sheffield, the technique that ensured complete coverage would gladly be demonstrated.

IS THE CIRCULATION OF PERIODICALS DESIRABLE?

H. THORNTON

T.M.M. (Research Ltd)

Northern Branch Conference, Sheffield, 28th November 1958

IS it desirable to circulate periodicals? An emphatic 'yes' is calculated to antagonise half of you from the outset. An emphatic 'no' is obviously going to do likewise. It seems therefore that we have here the ideal topic to promote discussion.

Not for one moment, however, did I contemplate a decisive answer; I have been looking too long for a solution to this myself. There are obviously so many factors influencing a decision—volume of material to be circulated, size of library staff to cope with the paper work and the actual physical circulation (from experience I have found that one cannot rely on periodicals being passed on by readers), number of staff to be circulated. All these factors have a direct bearing on the question.

Prompted by the request to give this short paper, I went over in my own mind the pros and cons, and mentally drew up two columns—one *for* circulation, and one *against*. I finally found myself with five reasons against circulating and one for. Hence, you presume, I am all for *not* circulating. You are wrong. I *do* circulate. Why? I consider that a special library is failing to provide an important service to its users when it does not circulate periodicals. I have in mind particularly circumstances such as my own where circulation is not confined to one block of buildings but where a service is provided for a group of companies situated in various parts of the country. I mean no disrespect to those of you who do not circulate for, as I have already noted, there are many arguments in support of your action. In addition, established practice at your library may be such that readers no longer expect to have periodicals circulated.

Let us examine some of these arguments against.

1. Increased paper work is inevitable.
    - *a.* You have to provide a circulation slip for each issue of every periodical. If you are smart you'll duplicate them to cover a twelve-month period, and having done so will find that staff changes will make your lists obsolete in a manner of a few months!
    - *b.* You have to decide on order of circulation. This seemingly innocent task is fraught with danger. If Oddsbod is last in line for *Nature* take care you have him at the top of the list for *Endeavour*; and be careful not to put the new lab. assistant before the directors.
    - *c.* You have to keep records of who sees what; and see that newcomers are added, and retiring members deleted.
    - *d.* You have to record outgoings and incomings.
    - *e.* And if you want to do your job thoroughly you will give your readers an annual opportunity of revising their reading list and, incidentally, give

yourself the job of revising and retyping all your existing records concerning circulation!

2. The foregoing could, of course, call for a corresponding increase in staff, or existing staff is going to expend man-hours which might be profitably occupied otherwise.
3. One is faced with the impossibility of making the same periodical available to a number of people at the same time. Periodicals are known to take up to three months to circulate. It is therefore hard lines on the last man on the list. A solution, of course, is the purchase of duplicate copies of certain titles for simultaneous circulation. This is very satisfactory provided one can afford it.
4. Recent issues are rarely in the Library for ready reference, which can give rise to frantic searches unless circulation is 'controlled' which, of course, calls for still more man-hours. The circulation of periodicals can prove irksome in a situation such as our own where we issue an abstract bulletin. This naturally gives rise to requests for sight of the original which is all too often in circulation.
5. One must face the possibility of 'loss' during course of circulation—actual loss, 'filing' in drawers for future reference, passing on to others not on the circulation list, use for illegitimate purposes, such as saucers and draught excluders.

Listing all these pitfalls, I ask myself if circulation is really worth all the trouble. In this frame of mind several years ago, encouraged by several members of our staff, and backed by a vote generally in favour, I embarked on a trial period of non-circulation. For three months we revelled in having every periodical within our grasp, and certain members of the staff read up-to-date periodicals for the first time in months, and discovered titles they never knew (or remembered!) we took. It revealed that circulation had its disadvantages inasmuch as reading is limited, to a certain extent, to a selected list. Then the honeymoon was over. Directors requested that they be circulated with certain 'important' periodicals, and the system began to crumble. Busier members of the staff claimed that they had no time to browse in the library and missed the pile of periodicals on their desk at which they could glance in the odd moment, or during the last half-hour of the working day, or even take home overnight. But more important still, there was a feeling on the part of the library staff of not reaching out to help the reader. Three months, and we were glad to return to the heartbreak of circulation, and disappointed only a very small number of our staff.

I have no doubt that some librarians could illustrate the reverse, and show that their staff prefer to visit the library and browse, in which case, if everyone is satisfied, it would be pointless to attempt a change.

In other words, circulation depends very much upon individual circumstances and on conscience. It may not, from the point of view of the library, be desirable to circulate periodicals, but the choice does not lie with us, it lies with our readers, and if they consider circulation is desirable, then circulate you must.

WHY MAKE YOUR OWN INDEXES?

F. NEWBY, M.I.INF.SC.

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Northern Branch Conference, Sheffield, 28*th November* 1958

UNTIL a few weeks ago, when I heard of a managing director of a large firm who asked his technical librarian 'Why do you go to all this trouble to make your own indexes?', I should have regarded this as a purely rhetorical question, not requiring a serious answer. It is clear, however, that the ingenious organizer of this Symposium also believes that there are two sides to this question which call for a calm and reasoned discussion. I am, therefore, constrained to set aside all prejudice and view the matter dispassionately.

Indexing is a process of documentation the purpose of which is to provide a means for relocating a particular piece of information when it is needed. Information noted today may be needed as soon as next week or even tomorrow so that indexing must keep pace with literature output; also, the means for relocating must be efficient for the particular interests and viewpoints of the library users, who in most cases are specialists.

On both these counts I can see no effective alternative to the librarian making his own indexes. (I will refer to these as 'domestic' indexes.) That is to say, I am not aware of any indexing service connected with periodical publications or external professional information bureaux which can meet the two essential requirements of being up to the minute and presenting the subject headings in the way required by specialist groups. The point becomes more obvious when one considers that in most cases specialist groups are often concerned with no more than an isolated statement in a paper or patent and this needs to be indexed in such a way that it ties up with the library user's viewpoint.

An example of this from our own library was a recent patent on dyed resinous pigments which was adequately abstracted on our punched cards and the appropriate holes clipped for dyes, pigments and resins *and hydrolytic processes*, the latter point, mentioned in only one short paragraph of the body of the specification, being our major interest.

Indexing in a special library is an intimate domestic affair and like families with their pet names for things and events, the special librarian must bring information together under index headings which would just not make sense to the outsider. There is no substitute for the home-made product.

In some cases, of course, there is no alternative whatever to the domestic index as, for example, in the case of internal correspondence, trade literature and report files. Many special libraries take care of such material especially when it is of a technical nature. Even inter-office memos may be very important since ideas for possible laboratory investigation or conception of patentable material are sometimes presented in them. All these must be indexed by the domestic scheme.

The necessity to be up to date in indexing needs no labouring. This is particularly important where patent searches are involved. A lot of money can be wasted in filing patents which lack novelty and the anticipatory matter in such a case may predate the filing date by only a few weeks. In recent years there have grown up various private enterprises which undertake for a comparatively high subscription to present patent information shortly after it becomes available. These are admirable services but the information is inevitably in abstract form and here again the specialist interest can easily be overlooked.

It is a pleasure for me to be able to mention Mr J. P. Lamb, former City Librarian of Sheffield. I note that he has a lot to say in favour of domestic indexes in his book on commercial and technical libraries although the call for these in the public library (with which he is concerned) cannot be as obvious as it is in the industrial special library. The librarian, he says, should not hesitate to index freely but always with practical ends in view. 'In the technical field', he states in another place, 'it is always useful to index the contents of periodicals for references to, or articles on, industrial processes on which the literature is scanty, particularly on aspects of research which it is known are being pursued in the works laboratories. The object of such an index is twofold: to supplement the printed cumulated periodical indexes and abstracts by indexing periodicals not included in them, and to bridge the gap between the publication of the article and the issue of the printed index.'

But, turning now to the opposite view, that it is unnecessary to make your own indexes, the best I can say for this is that domestic indexes are, of course, like everything else, prepared in a constantly changing world, everything is always in a state of flux (the Greeks had a word or phrase for this as well, 'panta rhea'). This being so, how can I today usefully index the specialist interests of my library clients when I do not know what their interests will be even tomorrow? Furthermore, my domestic index, over the years, is going to be cluttered up with dead information, with consequent waste of space and loss in efficiency.

Also, why not regard every request for information as *de novo*, that is to say, save all the time spent on indexing possibly useless information (because the subjects you have indexed may not after all be asked about), for undertaking searches of the published, and in many cases indexed, literature, only as and when the request for information arises. As an extension of this, why read literature at all in advance? Why not wait for the customer to ask for the goods before cluttering up your store with possibly unsaleable articles?

And finally, on a note of despair, it is impossible in a domestic index to touch more than a fraction of the information available on a particular topic. You cannot compete with the big abstracting publications and there are more of these every year; there may be a big time lag between them and the original literature but I can think of nothing else to say to support this obnoxious view!

DISCUSSION

MR P. R. DAY said that Mr Newby had contrasted the continuous building-up of indexes with the practice of making none but of searching the literature only when information was demanded. Since a problem once raised often cropped up a second time, was there not a case for a compromise between these two extreme techniques, i.e. making an index of answers given to questions asked of the information department.

MR NEWBY replied that some such system was used. Replies in the form of bibliographies were made into Memoranda which, together, formed an Information Supply File.

SELECTIONS FROM THE RECENT LITERATURE

Books and Pamphlets

BALLENTYNE, D. W. G. *and* WALKER, L. E. Q.
A dictionary of named effects in chemistry, physics and mathematics. London, Chapman & Hall, 1958. vi, 206 pp., diagrs. 30*s.*

BENGE, R. C.
Technical and vocational education in the United Kingdom: a bibliographical survey. Paris, Unesco, 1958. 51 pp. *Educational studies and documents no.* 27. 5*s.*

BLACKWELL, A. M.
Lists of researches in education and educational psychology, supplement III: presented for higher degrees in the universities of the United Kingdom and the Irish Republic in the years 1956 and 1957, classified according to the Dewey Decimal System. London, Newnes, 1958. 64 pp. *Publications of the National Foundation for Educational Research in England and Wales.*

BLANCHARD, J. R., *and* OSTVOLD, H.
Literature of agricultural research. Berkely, University of California Press, 1958. ix, 231 pp. $5 or 37*s.* 6*d.*

BOAZ, M., *ed.*
A living library: planning public library buildings for cities of 100,000 or less. Los Angeles, University of Southern California Press, 1958. 84 pp. illus. $2.25.

BOGSCH, A.
Universal copyright convention: an analysis and commentary. N.Y., Bowker in co-operation with the Copyright Society of the U.S.A., 1958. xxi, 279 pp. $12.

BRITISH INSTITUTE OF RADIO ENGINEERS
Library services and technical information for the radio and electronics engineer, London, the Institute, 1958. [2], 72, [2] pp. 2*s.* 6*d.*

CANADIAN LIBRARY ASSOCIATION, *and others*
Documentation, 1958: Proceedings of the Documentation Seminar 'New methods and techniques for the communication of knowledge', directed by Dr. Ralph R. Shaw. . . . January 20–21, 1958 . . . Ottawa, Canadian Library Association, 1959. vi, 76 pp. $3.00.

CLAPP, J., *ed.*
Association index; a source list of directories and other publications listing associations. Los Angeles, Metropolitan Research Company, 1958. [2], 122 pp. $7.

COMITÉ FRANÇAIS DES SCIENCES HISTORIQUES
Bibliographie annuelle de l'histoire de France du cinquième siècle à 1939: année 1957. Paris, Le Centre Nationale de la Recherche Scientifique, 1958. lii, 373 pp. 2.500 *fr.*

GREAT BRITAIN. Department of Scientific and Industrial Research
Notes on D.S.I.R. grants for graduate students and research workers. Revised January, 1959. London, H.M.S.O., 1959. 28 pp. 1*s.* 9*d.*

HARROD, L. M.
The librarians' glossary: terms used in librarianship and the book crafts. 2nd ed. (revised). London, Grafton, 1959. 332 pp. 18*s.*

LONDON. UNIVERSITY. Library
Union list of periodicals on mathematics and allied subjects in London libraries. London, the University, 1958. 62 pp. 5*s.*

MERRIMAN, A. D.
A dictionary of metallurgy. London, Macdonald & Evans, 1958, xv, 401 pp., illus., tables. 126*s.*

MICHIGAN. UNIVERSITY. Engineering Research Institute
Application of a teleference system to divisional library card catalogs: a feasibility analysis. Final Report. Washington, Council on Library Resources, 1958. vii, 91 pp., diagrs., tables. gr.

NATIONAL MICROFILM ASSOCIATION
Proceedings . . . Seventh Annual Meeting, New Orleans, Louisiana, April 21–23, 1958, edited by Vernon D. Tate. Annapolis (Maryland), The Association, 1958. x, 203, [24] pp., illus. $7.50 ($3.75 mem.).

NORDISK VIDENSKABELIGT BIBLIOTEKARFORBUND
Nordisk håndbog i bibliotekskundskab; udgivet af Nordisk Videnskabeligt Bibliotekarforbund under redaktion af Svend Dahl. Bind II: Bibliotekernes og bibliofiliens historie. København, Hassing, 1957. 416 pp. illus., plates, facsims. D.Kr.75.00.

PARKE, N. G.
Guide to the literature of mathematics and physics, including works on engineering science. 2nd revised ed. New York, Dover Publications Inc.; London, Constable, 1958. xviii, 436, [18] pp. $2.49 or 20*s.*

RANGANATHAN, S. R.
Classified catalogue code, with additional rules for dictionary catalogue code. 4th ed. Madras, Madras Library Association; London, G. Blunt & Sons, 1958. 605, [4] pp. 42*s.*

RILEY, V., *and* GASS, S. I.
Linear programming and associated techniques: a comprehensive bibliography on linear, non-linear, and dynamic programming. N.Y., Johns Hopkins University

Press, London, O.U.P., 1958. x, 613 pp. *Bibliographic reference series no. 5.* 48*s.*

TAUBER, M. F., *and others*
The Columbia University Libraries: a report on present and future needs, prepared for the president's committee on the Educational Future of the University, by the subcommittee on the University Libraries, Maurice F. Tauber, C. Donald Cook, and Richard H. Logsdon. New York, Columbia University Press, 1958. xi, 320 pp. 40*s.*

UNITED NATIONS EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION
Directory of current Latin American periodicals, by the Pan American Union. Paris, Unesco, 1958. xxv, 266 pp. *Unesco bibliographical handbooks.* 17*s.* 6*d.*

UNITED NATIONS EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION
Unesco symposium on national libraries in Europe, Vienna, 8–27 September, 1958. Final summary report. Paris, Unesco, 1958. 5 pp.

UNITED STATES. LIBRARY OF CONGRESS
Serial publications of the Soviet Union, 1939–1957: a bibliographic checklist; compiled by Rudolf Smits. Washington, Library of Congress, 1958. ix, 459 pp. $2.75.

UNITED STATES. LIBRARY OF CONGRESS. Slavic and Central European Division
East and East Central Europe: periodicals in English and other West European languages; compiled by Paul L. Horecky, Washington, Library of Congress, 1958. vi, 126 pp. 95*c.*

UNITED STATES. NATIONAL SCIENCE FOUNDATION. Office of Scientific Information
Current research and development in scientific documentation. No. 3. Washington, U.S. Government Printing Office, 1958. v, 76 pp. 30*c.*

WHITING, C. S.
Creative thinking. N.Y., Reinhold Publishing Corp. London, Chapman & Hall, 1958. xii, 168 pp. 32*s.*

THE WORLD of learning, 1958–1959. 9th ed. London, Europa Publications, 1958. xiii 1139 pp. 130*s.*

YENAWINE, W. S., *ed.*
Contemporary library design. Syracuse, N.Y., Syracuse University Press, 1958. vi, 26 pp. *Frontiers of Librarianship no.* 1. $1.50.

Articles and Papers

ADKINSON, B. W.
United States scientific and technical information services. *Special Libraries,* vol. 49, no. 9, November 1958, pp. 407–414.

ANDERSON, H. R., *and* COVAULT, R. L.
A 'home' for edge-punched cards. *Systems,* vol. 22, no. 6, November–December 1958, pp. 6–7.

ARABIC transliteration
The Library of Congress Cataloging Service Bulletin, no. 49, November 1958, pp. 1–9.

BAXENDALE, P. B.
Machine-made index for technical literature—an experiment. *IBM Journal of Research and Development,* vol. 2, no. 4, October 1958, pp. 354–361.

BERNIER, C. L.
Documentation in the field of science. *Special Libraries,* vol. 49, no. 9, November 1958, pp. 415–420.

BLOOMQUIST, H.
Cataloguing and classification of medical library materials, 1946–1956: ten years of progress and problems. 1. Cataloguing. *Bulletin of the Medical Library Association,* vol. 47, no. 1, January 1959, pp. 28–45.

COLLEGE and university library statistics, 1957–58. *College and Research Libraries,* vol. 20, no. 1, January 1959, pp. 27–46.

DECKERT, H. VON
Probleme der alphabetischen Katalogisierung. *Zentralblatt für Bibliothekswesen,* vol. 72, no. 2/3, October 1958, pp. 117–133.

ESTES, D. E.
Government publications in the classroom. *College and Research Libraries,* vol. 20, no. 1, January 1959, pp. 78–80.

FULCHER, J. M.
Card-form publications in medicine and related fields. *Bulletin of the Medical Library Association,* vol. 47, no. 1, January 1959, pp. 48–53.

HARTH, R.
Stand und Probleme der betrieblichen Dokumentation in der Bundesrepublik Deutschland. *Nachrichten für Dokumentation,* vol. 9, no. 4, December 1958, pp. 161–168.

HITCHCOCK, J. E.
Objective subjectivity: four-year report on starred subject cards. *College and Research Libraries,* vol. 20, no. 1, January 1959, pp. 9–14.

LUCE, R. W.
Time-savers and space-savers. *Special Libraries,* vol. 50, no. 1, January 1959, pp. 9–12.

MCCOLVIN, L. R.
Dewey Decimal Classification, edition 16: a review. *The Librarian and Book World,* vol. 47, no. 9, October 1958, pp. 161–164.

MAICHEL, K.
The listing of scientific literature in Soviet national bibliographies. *Special Libraries,* vol. 50, no. 1, January 1959, pp. 13–15.

MOORE, F. W.
Social science documentation. *Special Libraries,* vol. 49, no. 9, November 1958, pp. 421–426.

PHELPS, R. H.
Engineering information—all is not lost: literature is being effectively used despite current lack of efficient mechanical retrieval systems. *Science,* vol. 129, no. 3340, 2 January 1959, pp. 25–27.

RADFORD, H. E.
Some observations on plastic jackets in relation to library binding. *The Library World*, vol. 60, no. 703, January 1959, pp. 116–118.

REFERENCE publications of the Lenin State Library of the U.S.S.R. (Bibliotekar, 1958 (10), pp. 60–61). *L.L.U. Translations Bulletin*, February 1959, pp. 41–44.

REQUA, E.
The Library of International Relations, Chicago. *Illinois Libraries*, vol. 41, no. 1, January 1959, pp. 51–54.

RIBERETTE, P.
Techniques modernes du prêt. *Bulletin des Bibliothèques de France*, vol. 3, no. 11, November 1958, pp. 793–809.

SHARP, H. S.
Fiction for technical libraries. *Library Journal*, vol. 83, no. 18, 15th October 1958, pp. 2795–2796.

SHASTRI, B. N. *and* PHADNIS, S. P.
Why and what of indexes in books and periodicals. *Library Herald*, vol. 1, no. 3, October 1958, pp. 151–154.

SOEKEN, H. K.
Die Dokumentation in Deutschland in den Jahren 1957/58: Probleme der Entwicklung und Organisation. *Nachrichten für Dokumentation*, vol. 9, no. 4, December 1958, pp. 203–208.

THOMPSON, L. S.
The microfacsimile in American research libraries. *Libri*, vol. 8, no. 3–4, 1958, pp. 209–221.

VOLLANS, R. F.
What does a deputy librarian do? *The Library World*, vol. 60, no. 704, February 1959, pp. 145–147.

VLOLENHOVEN, J. H. SNELLEN VAN
The use of A7 standard size library cards. *Unesco Bulletin for Libraries*, vol. 13, no. 1, January 1959, pp. 8–10.

WARD, P.
The Regensburger Decimal Classification. *The Private Library*, vol. 2, no. 3, January 1959, pp. 34–38.

WERTHEIMER, R. J.
Preparation for librarianship overseas. *Suid-Afrikaanse Biblioteke*, vol. 26, no. 3, January 1959, pp. 96–100.

WILKINSON, W. A.
Indexing a personal reference file. *Special Libraries*, vol. 50, no. 1, January 1959, pp. 16–18.

WINCHELL, C. M.
Selected reference books of 1957–1958. *College and Research Libraries*, vol. 20, no. 1, January 1959, pp. 17–26.

All the above items may be borrowed from Aslib Library, except those marked with an asterisk. Most of these are available for consultation in the Library, apart from a few for which locations in other libraries can be given.

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IRI Transactions, vol. 16, no. 5; vol. 18, nos. 1–3; vol. 21, no. 3; vol. 25, no. 2; vol. 28, nos. 1, 3. *Chemical Trade Journal,* Feb. 4, 11, 18 (1949). Write to: Librarian, National Chemical Laboratory, Poona 8, India.

Jnl. of American Chemical Soc. no. 24, 20th Dec. 1955. *British Abstracts* B III, July 1953. *Food Technology,* May 1953, June 1955. *Industrial Heating Engineer,* March 1956. *British Chemical Engineering,* Jan., Feb. 1957. Box 659, Aslib, 3 Belgrave Square, London, S.W.1.

Library Association *Subject Index to Periodicals.* Annual volumes for years prior to 1948. Willing to pay reasonable price and postage. The Librarian, Leeds College of Art, Vernon Street, Leeds 2.

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Analytical Abstracts, vol. 4, Feb., Mar., April; Index v. 2 1955. *British Abstracts* Abstracts A, B and C, Index of Authors 1952, and Subjects Index 1951 and 1952. Box 659, Aslib, 3 Belgrave Square, London, S.W.1.

Unbound set of *Industrial Chemist,* vol. 33, 1957. Apply to the Librarian, Medical Department, The British Drug Houses Ltd, Graham Street, City Road, London, N.1.

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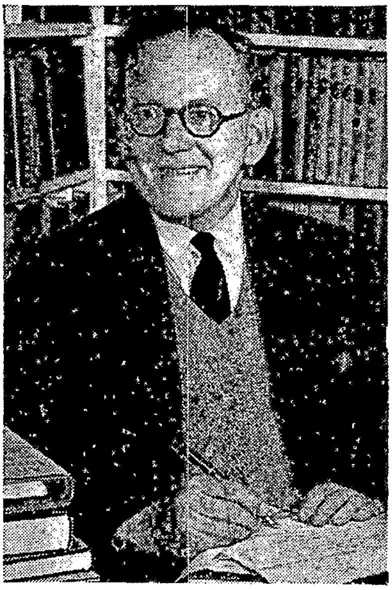

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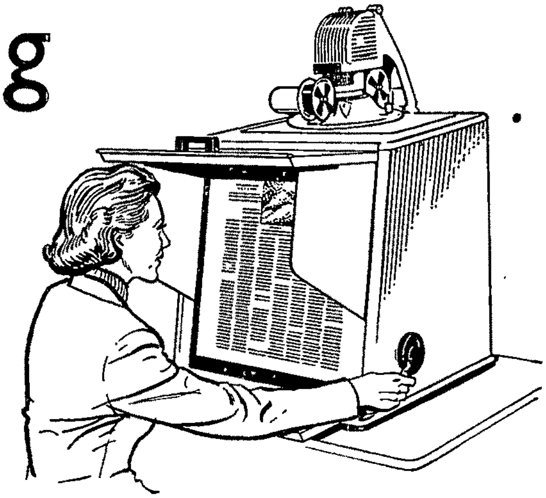

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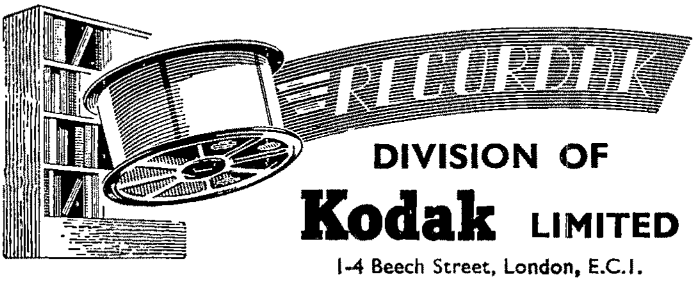

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ASLIB PROCEEDINGS

incorporating Aslib Information

Volume 11 **May 1959** **Number 5**

ASLIB CALENDAR

MAY

MONDAY 25th. Engineering Group Annual General Meeting. See paragraph below.

TUESDAY 26th. Northern Branch, North Eastern Section meeting. See paragraph below.

FRIDAY 29th – SUNDAY 31st. Electronics Group conference. See paragraph below.

JUNE

FRIDAY 26th. Annual General Meeting.

OCTOBER

MONDAY 5th – WEDNESDAY 7th. Annual Conference at the Grand Hotel, Scarborough.

MONDAY 19th. Engineering Group visit. See paragraph below.

London Evening Meeting

Mr Koji Abe of the Japan Center of Science and Technology (JICST) will speak of the work of the Center at a meeting to be held at 5.30 p.m. on Wednesday 3rd June at Aslib, 3 Belgrave Square, London, S.W.1. JICST was established in August 1957. In addition to the scientific and technical information bureau, the Center supplies translation and photoreproduction services and answers individual inquiries. Information is collected from some 3000 Japanese and foreign periodicals, from university research reports, conference proceedings, patent specifications, and other sources; it is classified by Universal Decimal Classification and retrieved by mechanical means. In addition to the periodicals, a stock of 2000 reference books is held in the library of the Center.

Special Libraries in India

There was a disappointingly small attendance at the meeting held on 16th April, when B. Agard Evans, Librarian, Ministry of Supply, gave an interesting paper on special libraries in India. For the benefit of those who were unable to be present it is hoped to publish Mr Evans's paper in full in a future issue of *Aslib Proceedings*.

Midlands Branch

The Annual General Meeting was held on 25th March in Birmingham and was followed by a talk on the use of microphotographic techniques in libraries, given by L. L. Ardern, F.L.A., Librarian, Manchester College of Science and Technology. Members of the West Midlands Group of the Reference and Special Libraries Section of the Library Association were invited to attend this session. Mr Ardern spoke of the development of microphotography and discussed various types of microtext and readers available. A plea was made for the establishment of a microtext centre where new ideas could be developed and impartial assessment made of commercial apparatus for the benefit of librarians and information officers.

Northern Branch

A meeting to discuss technical and commercial information for industry was held on 8th April in Huddersfield. It was organized by the Branch in co-operation with the Huddersfield Public Libraries, and was attended by more than sixty persons from industry and from the Huddersfield College of Technology and the Teacher Training College, as well as by other interested individuals and by members of the Branch. Proposals were put forward by L. Taylor, Librarian, Industrial Gear Division, David Brown Industries Ltd, for improvement of co-operation between local industrial concerns in order to provide information to executives and employees. He also recommended training courses for information officers and adequate provision of scientific and technical textbooks in the Public Library. F. Broadbent, Technical Director, T. Broadbent & Sons Ltd, spoke of the value of technical and commercial information to small firms; and S. T. Dibnah, Deputy Chief Librarian, Huddersfield Public Libraries, described the services available at the library and the role that it could play in a co-operative scheme for industrial information. A working committee was set up to consider: *a.* the adequacy of provision for scientific, commercial, and technical information at the Public Library, *b.* the provision of a training course for information officers at the College of Technology, and *c.* the institution of a local scheme for co-operation in industrial information.

There will be a meeting of the North Eastern Section of the Branch at the Y.M.C.A. Buildings, Newcastle upon Tyne, on Tuesday 26th May at 7 p.m. The meeting will take the form of a discussion on the handling of periodicals and will be led by F. H. Bell, Librarian, Thomas Hedley & Co. Ltd, F. A. Graham, Librarian, Vickers-Armstrongs (Engineers) Ltd, and J. Kennedy, Librarian, Formica Ltd.

Scottish Branch

Office-bearers of the Scottish Branch Committee for the year 1959–60 are as follows: Chairman, C. G. Wood, Librarian, Royal College of Science and Technology, Glasgow; Vice-Chairman, Alexander Liddle, Librarian, Babcock & Wilcox Ltd; Hon. Treasurer, J. R. K. Pirie, Librarian, Mechanical Engineering Research Laboratory, East Kilbride; Hon. Secretary, Miss N. I. Shinie, Librarian, T. & H. Smith Ltd, Edinburgh.

The Branch held a successful evening meeting on 16th April, when Miss A. M. Carter, Deputy Librarian, Recorded Programmes Permanent Library, BBC, gave an entertaining talk entitled 'Sound sidetracks' which she illustrated with gramophone records. The meeting was held in the Glasgow studios of the BBC, by courtesy of George Runcie, Assistant Head of Scottish Programmes, Television, who also introduced the speaker.

Aeronautical Group

The eighth Annual Conference of the Group, held at Cranfield from 3rd to 5th April, was attended by forty-eight members. After the Annual General Meeting, the Saturday sessions were devoted to consideration by the delegates of a paper entitled 'Technical information in the aircraft and guided weapon industry', prepared by the Committee. Many useful contributions were made on the basis of which the paper is to be modified and expanded. Professor and Mrs Hemp, of the College of Aeronautics, were guests at the reception and conference dinner on Saturday evening. On Sunday morning, two papers on 'The place of the library in a guided missile organization' were presented by J. E. Allen, Head of the Aerodynamics, Projects, and Assessment Department, and R. A. Wall, Librarian, of the Weapons Research Division of A. V. Roe & Co. Ltd. Mr Allen discussed the technical environment and surprised his audience by telling them that the librarian was considered an equal member of the research team and that the library was almost the first section to start functioning when the Division was set up. Mr Wall described the library, its work, and its philosophy. In the afternoon, R. A. Fairthorne, of the Mathematical Services Department, Royal Aircraft Establishment, Farnborough, gave his views on the International Conference on Scientific Information, held in Washington in November 1958, and R. C. Wright, Librarian, Royal Aircraft Establishment, described some of the North American libraries that he had visited in 1958.

Economics Group

The Group celebrated its eighth Annual General Meeting on 18th March with the customary luncheon at Williamson's Tavern, Bow Lane, in the City of London. Sixty-seven members attended and listened to a spirited after-luncheon talk by Paul Bareau, of the *News Chronicle*, on 'Britain and the European common market'. At the business meeting that followed, the committee was re-elected without change. Good wishes for a speedy recovery from his recent illness were sent to the Hon Secretary, G. Allder, and thanks were expressed to all concerned for the past year's excellent programme. A wedding gift, with congratulations on his engagement, was presented to the Hon. Publications Officer, Dr A. J. Walford.

Film Production Librarians Group

At a meeting of the Group held on 9th April, the committee was re-elected *en bloc* for the year 1959–60. The Chairman is J. Mountford, Associated Rediffusion Ltd, and the Hon. Secretary, Miss P. D. Dowling, Shell Film Unit. G. Crowther, Librarian, Royal Aircraft Establishment, Farnborough, gave a talk about the organization of the R.A.E. film library, which holds material dating back to 1921. Film material is filed under subject, title and edge numbers. At the end of his talk Mr Crowther screened a composite film of material shot by members of the R.A.E. staff.

FID Conference in Warsaw

The twenty-fifth conference of FID will be held in Warsaw from Thursday 17th to Saturday 26th September. A provisional programme has been drawn up as follows:

Thursday 17th. Meetings of the Bureau and the Committee of Ways and Means.

Friday 18th–Saturday 19th. Council meeting.

Sunday 20th. Free day.

Monday 21st–Friday 25th. General Assembly: conferences on information services, publication of original works, document reproduction and selection, bibliographies and abstracts, author's copyright in document reproduction, training of documentalists, comparative classification, linguistic problems, the needs of countries in process of development, and standardization.

Saturday 26th. Council meeting.

The General Assembly is open to all delegates, but meetings of the Bureau and the Council are restricted to members of those bodies. An exhibition of documentation equipment will be held during the conference.

Members who wish to attend the conference are asked to inform the Director, Aslib, 3 Belgrave Square, London, S.W.1, or the Secretariat Générale, Fédération Internationale de Documentation, 6 Willem Witsenplein, The Hague, Netherlands, before 15th June. Accommodation may be reserved through national agents of Orbis (quoting FID) at a fixed daily charge of 71*s.* 8*d.* first class, 53*s.* 9*d.* second class or 39*s.* 5*d.* third class. Reservations must be made before 15th August. The agent for Orbis in England is Fregata Travel Ltd, 122 Wardour Street, London, W.1. Telephone Regent 5101.

IFLA Meeting in Warsaw

The International Federation of Library Associations will meet in Warsaw from Monday 28th to Wednesday 30th September.

International Co-operation in Documentation

Following the Fiftieth Anniversary Convention of the Special Libraries Association at Chalfonte-Haddon Hall, Atlantic City, from 31st May to 3rd June, a one-day session on international co-operation in documentation will be held on Thursday 4th June. It is sponsored jointly by the Science-Technology, Documentation, Metals, and Military Librarians Divisions of SLA. The meeting will include discussion between representatives of various European and Latin American countries of the documentation resources and activities of their nations' libraries and information services, and between representatives of international organizations concerned with information services. The Director of Aslib will be among those speaking at the meeting.

F.I.T. Congresses

The second international congress on translation will be held from 27th to 30th July at Bad Godesburg, Western Germany, in connection with the third Statutory Congress of the Fédération Internationale des Traducteurs. The translation congress will be organized in two parts, under the general theme 'The quality in translation'. One part will be concerned with scientific and technical and the other with literary translation. It is intended to have statements of the required standards of translation from such various sources as research institutions, documentation centres, publishers of scientific books, and editors of engineering and other journals.

Course on Report Writing

A one-week course on report writing will be held in London from Monday 29th June. The course will be organized by the Department of Management Studies, The Polytechnic, and will give direction in preparation and presentation of written reports, both technical and non-technical. The fee will be three guineas. Applications should be made immediately to the Registrar, St Katherine's House, 194 Albany Street, London, N.W.1.

Research in Selective Retirement

The Council on Library Resources has announced a grant of $50,000 to Yale University to seek a method of controlling space problems in large research libraries. The study will investigate the Selective Book Retirement Program for retiring from existing collections as many books as are newly acquired each year. The study will attempt, in consultation with the faculty, to find valid criteria for identifying the types of book in each subject that can safely be retired, and to study the effects on faculty and graduate student research and on undergraduate use of the library. The report of this project, due in approximately three years, should be useful to all librarians faced with expanding collections and limited space.

Classification Research

An informal classification research study group is now being formed in the United States of America, similar to the Classification Research Group that has been active in this country for several years. It is hoped that the new group will establish a broader approach to classification by drawing on the combined experience of members of the American Library Association, the American Documentation Institute, and the Special Libraries Association. The objects of the group, as stated in *Unesco bibliographical news*, vol. 8, no. 2, are to promote basic and applied research in classification unfettered by the laws of any particular system, to facilitate the exchange of information between members, to encourage publication of papers of interest in the field of classification, and to hold meetings and sponsor symposia from time to time. All those interested in membership should apply to Dr Phyllis A. Richmond, University of Rochester Library, Rochester 20, New York.

Science Library Acquisition

The Rand Corporation has presented to the Science Museum Library, as a national deposit collection for Great Britain, a set of nearly 1,000 of their research publications. These range through mathematics, physics, electronics, aeronautics, economics, and the social and political sciences. The publications are available on loan to registered borrowers and photocopies can be obtained by all applicants through the Science Museum Library Photocopy Service. The index to the Rand Corporation publications is held by the library but is not for loan. Copies of the index have also been deposited with the larger university libraries of Great Britain.

Review of Documentation

Attention is drawn to the *Review of Documentation,* published quarterly by the International Federation for Documentation, which contains articles and news of recent activities and developments in documentation. A specimen copy may be borrowed from the Aslib library. The annual subscription is 20 florins (approximately £2) and orders should be placed direct with the F.I.D., 6 Willem Witsenplein, The Hague, Netherlands.

Digest of Soviet Technology

Engineering Information Services have published the first number, dated April 1959, of a periodical entitled *Digest of Soviet Technology.* It aims to give express information on recent developments in the Soviet Union and Eastern Europe. The foreword states that information is obtained by critical reading of over fifty periodicals and of non-periodical literature published in Russia and Eastern Europe, and that the assessment, translation, and editing is carried out by highly qualified engineers. The present fields of coverage are mechanical engineering, production processes and methods, instruments, and automation. Each abstract carries reference to the original publication, issue number and date, number of pages, illustrations, tables, and references, but the author and title of the article are not given. It is stated that a full translation of any article included in the digest will be made on request, the charge depending on the number of applications for the article. The *Digest of Soviet Technology* will be published monthly at an annual subscription of six guineas. Further information and specimen copies may be obtained from Engineering Information Services, 8 Victoria Road, Kirkham, Preston, Lancashire.

Russian Journal of Inorganic Chemistry

Starting with the January 1959 issue, the Chemical Society, with the support of the Department of Scientific and Industrial Research, is to publish a cover-to-cover translation of the monthly *Zhurnal neorganicheskoi Khimii,* a publication of the Academy of Sciences of the USSR. The translation will be undertaken for the Society by Infosearch Ltd. Translations will be issued as soon as possible after the Russian original is available and the January issue is expected to be ready this month. The annual subscription is £30 or $90, with 25 per cent discount to universities and technical colleges. Single copies £4 or $12 each. The journal is distributed by Cleaver-Hume Press Ltd, 31 Wright's Lane, London, W.8.

Directory of French Research Laboratories

The Office National des Universités et Ecoles Françaises has recently published a 528-page volume entitled *Repertoire des laboratoires de recherches médicales pharmaceutiques vétérinaires*. It is a comprehensive directory to laboratories and research institutions in France and in French possessions overseas. Laboratories are listed under the principal universities and each entry gives the scope of work of the laboratory or institution, the names of the principal officers and lists of their recently published works, research facilities, and the number of research posts available. An alphabetical subject list and a name index to the scientists mentioned in the directory are included. *Repertoire des laboratoires de recherches médicales pharmaceutiques vétérinaires* can be obtained from Service d'Edition et de Vente de Publications de l'Education Nationale, 13 rue du Four, Paris 6. Price 2,000 francs (approximately £2).

Exchange Publications

The technical university library at Zürich is anxious to establish regular exchange facilities with libraries and scientific institutions in Great Britain. The library offers full texts of doctoral theses published by the university, the annual *Bibliographia Scientiae Naturalis Helvetica,* and the *Bulletin de la Société Entomologique Suisse* (by agreement with the board of the Society). Librarians interested in obtaining any of these publications on an exchange basis should write to the Director, Exchange Service, Eidg. Technische Hochschule Bibliothek, Zürich, Switzerland.

Retirement

Mr William Cox, C.B.E., Deputy Controller of H.M. Stationery Office since 1953, retired from the public service on 31st March after forty-four years' service in various branches of the Department. He is succeeded by Mr Rowland Owen, C.M.G., lately Comptroller-General of the Export Credits Guarantee Department.

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AUTOMATION IN LIBRARIES

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Technical Librarian, Joseph Lucas (G.T.E.) Ltd

Aslib Midlands Branch Meeting, Birmingham, 21st January 1959

INTRODUCTION

THIS paper represents a brief survey of automation in relation to its existing or probable applications in the spheres of libraries and information work.

Many definitions have been advanced for automation, and lately the *Concise Oxford Dictionary* has recorded:

Automation: the automatic control of the manufacture of a product through successive stages; (loosely) the use of machinery to save manual labour. (irregular, formed from *automatic*).

To this definition might be added: 'and to save mental labour'. Of the many more elaborate definitions, two useful basic concepts are: *a.* the replacement of muscle by machine, and *b.* the replacement of brain by machine. The first example is typified by the operation known as transfer machining, where a component is passed from one machining stage to another without direct human intervention. The computer illustrates the second example; by means of this device, complicated calculations normally requiring many hours to work out are executed in a matter of seconds.

PROBLEMS RELATING TO LIBRARIES

The problems relating to libraries may be divided into physical and mental. Firstly, in libraries of considerable size, handling problems will come to the fore. The case of the proposed National Lending Library for Science and Technology, planned ultimately to contain some twelve million to eighteen million volumes, springs to mind. Here an opportunity presents itself for a detailed study of the factors involved in administration for lending such a large collection of books, and, depending on costs and usage, automation may provide the answer.

In the main, however, it would appear that automation has a bigger role to play in the replacement of brain-work by machine. The flood of scientific information increases yearly. Many figures are available, and the following will serve by way of example. In 1957 there were 100,000 abstracts relating to chemistry; close on that figure come the research reports issued. The total output of new books on science and technology is estimated at 60,000 volumes per year. Dr Harold Wooster, director, Research Communications, Air Force Office of Scientific Research, has said: 'The volume of literature in these subjects has doubled every ten to fifteen years since 1800. In a survey recently undertaken, of 100,000 scientific papers considered, about one-quarter were abstracted 2.5 times, another quarter once each, and one-half not at all'.[1]

Evidently, then, there is a great deal of effort being expended, and a great deal more required. Automation has its part to play in this. Costs, of course, are a decisive feature. Libraries and information services are not over-endowed with funds, and the work they do can rarely be measured in terms of hard cash. Nevertheless, considerable amounts of money are made available in one way and another for information work. One American estimate puts the amount of world spending on abstracting as $200,000,000 per year, and a further $300,000,000 on searching and retrieval.

In coping with the tasks mentioned above, the computer has a pre-eminent part to play. The computer itself has been described elsewhere many times;[2] here it will suffice to mention that the prime factors involved are: 1. construction of a memory; 2. feeding in the information, and 3. retrieval as required. At the moment no existing device is ideally suited to information work as understood by librarians and information officers, though to be sure there are many examples of computers handling technical data. In adapting or designing a computer, many aspects must be considered, not the least of which is how a computer compares with hand searching. Would a computer provide all the required information? Or would it provide too much, and at too great a speed to be digested? How would it cope with unforeseen relationships? All these questions are vital and must be solved. Indeed, as will be seen, attempts are already being made to answer them.

Allied to the computer is the newly developed machine which can read. Such machines, capable of phenomenal speeds (1000 characters per second), can take the computer a step further. Generally, in the computer, only the source of information is envisaged as being stored; i.e. a reference to a report or paper, rather than the information the original contains. However, the reading machine can take in whole reports, books, and the like, and store until required. A scanning technique converts the characters into a series of electrical impulses, which are then analysed and decoded; the output can be arranged as desired, i.e. tape or punched cards. In one case, an electrostatic printer operates at 3,000 words per minute, although for practical purposes it is scaled down to a rate of 750 words per minute. (In theory, it is capable of the staggering speed of 500,000 words, or three full-length novels, per minute.)

Such, then, is some of the apparatus already available and awaiting adaptation to library use. At the recent International Conference on Scientific Information held in Washington a number of machines were shown which had been designed for information retrieval. Many were not beyond the prototype stage. Despite this, it has been said: 'One day this Conference will be seen to have marked the point in time at which the designers of information machines and the users accepted the challenge which each put to the other'.[3]

The range of machines in active development is a broad one, covering the compilation of abstracts, the translation from one language to another, the storage of information, and machines which will learn.

EXAMPLES OF AUTOMATION

Already, particularly in the United States and Russia, there are many examples of machines replacing brain power. There is the well-known example of the U. S. Patent Office,[4] where the mechanized sorting of applications in the steroid art is in use. By January 1958, 1500 patents had been encoded, and further additions are made each week. The method is based on punched cards and descriptors. It has taken 100 man-hours to encode the patents at present in the system. To institute a search the examiner checks the items he wants investigating on a work-sheet. By means of a dialling arrangement depending on descriptors, relevant patents are produced some fifteen minutes after the start of the operation. This example is confined to a branch of chemistry which is suited to a system of descriptors, and, though admittedly narrow in scope, may furnish valuable information and experience for wider applications.

Another scheme is that used by the General Electric's Aircraft Gas Turbine Division, Cincinnati, Ohio. The system[5] is based on descriptive key-words and on file numbers. Each document is allotted a dozen or more words describing it. All documents on the same subject are listed by number under a common description. An abstract is also compiled, and the information so formed is fed into a computer. At present there are over 30,000 document abstracts recorded on three magnetic tapes, more than 7,000 key-words describing these documents and more than 250,000 document file numbers co-ordinated with the words in the system.

The retrieval system searches through the entire list of numbers in less than three minutes. In under fifteen minutes, depending on the number of documents unearthed, the system will deliver printed abstracts of these documents, each of which carries the requester's name and address, the document's title, author, and file number, and the security classification. In its present form the system can accommodate one million abstracts plus fifty-six million file numbers, and can carry out ninety-nine simultaneous searches.

Yet another example of the active development of automation for library use is to be found in the work of the American Society for Metals.[6] This body is engaged on a pilot operation to investigate the feasibility of applying computer-type equipment to the retrieval and correlation of metallurgical literature. Twenty-five thousand documents are being processed. Encoded abstracts are used, written in a standard telegraphic style, and this stage may be regarded as the equivalent of preparing a detailed index for machine searching. The encoding is done in such a way that a wide range of equipment may be tried. A coding dictionary has been compiled, and already limited searching services are in operation.

The following methods are being studied, and, though again confined to a comparatively limited field, should provide a useful basis for further investigation: 1. hand-sorted punched cards; 2. hand-manipulated aspect cards (number matching and coincidence identification); 3. machine-sorted punched cards; 4. machine-manipulated aspect cards; 5. tape-reading devices; and 6. photographic film devices.

CONCLUSIONS

The general picture is one of awareness, and promising starts have been made. By its very nature the use of automation calls for the combined efforts of experts in many different disciplines, such as mathematics, classification, electronics, linguistics, and so forth. Automation will surely come, and it behoves the information officer and librarian to make themselves acquainted with those aspects of the problems where an informed body of opinion within the profession can exert its rightful influence.

REFERENCES

1. *Aviation Week,* vol. 67, 25 November 1957, p. 31.
2. See for example: Department of Scientific and Industrial Research. *Automation: a report on the technical trends and their impact on management.* 1956, H.M.S.O.
3. *Engineering,* vol. 186, 28 November 1958, p. 692.
4. Non-conventional technical information systems in current use. 1958. Washington, Office of Scientific Information.
5. *Space/Aeronautics,* November 1958, p. 90.
6. A. KENT *and* J. W. PERRY. 'The information center of tomorrow.' Paper before the American Society of Mechanical Engineers, 1958.

DISCUSSION

During the discussion, K. W. HUMPHREYS (University of Birmingham Library) suggested that only a central information organization could justify the cost of the equipment and keep it fully employed. He stressed the need for inquirers to formulate their queries precisely, otherwise the machine output might be too great to handle effectively.

The speaker agreed on the need for precision in seeking information and thought that there was scope for greater collaboration between inquirers and librarians.

K. J. RIDER (Birmingham Public Libraries) thought there would be advantages in grouping information by its ease of retrievability, e.g. documents, periodical articles, data tables.

J. H. BENNITT was of the opinion that a human being had the advantage of being able to anticipate information needs.

E. H. C. DRIVER (College of Technology, Birmingham) asked the speaker if he thought that the increasing use of machines might result in the replacement of books by microcards or microfiches as the vehicles of information. The speaker agreed, but Mr HUMPHREYS thought that books were not likely to be ousted in the humanities.

INDUSTRIAL DESIGNS AND TRADE MARKS: THEIR HISTORY, DEVELOPMENT, AND PROTECTION

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Aslib Scottish Branch Meeting, Glasgow, 6th February 1959

INDUSTRIAL DESIGNS

The need for good design

FROM time to time before the Industrial Revolution a small number of influential patrons of the Arts exercised great influence on design. Such names as George IV, the Prince Consort, William Morris, Earl of Burlington, and Robert Adams covering the last two centuries spring to the mind. In the year 1944, while the second world war was still on, a movement was inaugurated by the Coalition Government to improve the standard of design generally, sponsored largely by the Government. It was recognized that the term 'British Made' alone was not enough to secure success in a highly competitive market where there is absolute necessity to develop and extend the export business. According to *The Sunday Times* of 26th June 1945, a simple questionnaire on the design factors affecting exports was addressed to thirty foreign Embassies and Legations in Britain. In addition, personal discussions took place with the attachés of seventeen countries. The answers of these experts were most interesting and illuminating.

The majority of those questioned rated the United Kingdom lower than the United States in visual appeal, ingenuity, modernity (this was unanimous), services and spares (also unanimous), and packaging (by a small margin).

The United Kingdom was unanimously placed first in workmanship and efficiency.

Not only was British design considered in several respects inferior to that of the United States, but the majority of attachés placed us below German standards of visual appeal and modernity, and the Scandinavian countries excelled us in industrial art. It would appear, therefore, that the American product will beat its British counterpart on appearance. That is, in a country which has no sentimental or political bias, the American product will sell on appearance and showmanship, while the excellent workmanship and lasting qualities of the British product will have far greater difficulty in proving themselves.

Good taste and refinement in design are now essential in connection with the sale of all goods.

H.R.H. the Duke of Edinburgh* in the course of his Address to the Convocation of the Royal College of Art, London, on 8th July 1955, said that there is 'plenty of room for good design in all the things that surround us in our daily lives.

'The machine is with us, and I think it is probably here to stay. Therefore we need artist-engineers who can so control our machines that they will produce only attractive things.

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'What we lack are not artist-craftsmen but artist-engineers. There is no reason why in this day and age we should be palmed off with second-rate stuff on the excuse that it is machine-made.

'I would like to suggest that the best designer is in fact the artist-engineer, because only the artist-engineer can readily understand the enormous possibilities which are constantly opening up with new materials and new techniques, the combination of qualities necessary to be an artist with experiment and invention, with practical originality and with taste.

'If artists wish to be wholeheartedly accepted into the industrial world they must have technological qualifications.'

Forms of protection

Although several thousand designs are registered each year at the Designs Branch of the Patent Office, the facilities available whereby anyone can quickly and inexpensively obtain protection for a new, useful, or ornamental design are not generally known and understood. The owner of a novel or original design which is capable of being protected by registration under the Registered Designs Act, 1949, should take the necessary steps if he desires to prevent others from copying. The Copyright Act of 1956, which came into force on 1st June 1957, expressly excludes from protection anything which is capable of registration as a design.

Copyright in designs was originally introduced in the year 1787, and was the result of a general need for a form of protection which was effective for those occupied in the linen trade. It was found that if a manufacturer invented a new design for a calico or muslin which became a success, it was only a matter of a short interval before others commenced to sell merchandise of similar, if not the same, pattern. In order to rectify this unsatisfactory position, the Act of 1787 was passed, followed by various Designs Acts. The Act of 1787 granted copyright protection to inventors and proprietors of designs for linens, calicos, cottons, and muslins, but under the original Act they did not require to register in order to obtain protection. In place of such registrations in a similar way as writers and artists today automatically obtain copyright in their productions under the Copyright Act of 1956, so every originator of a novel design automatically obtained copyright and also possessed the right to prevent others from copying. However, in 1839, the registration of designs was introduced, and since that date it has always been essential to *register* a design in order to obtain the copyright.

By the Act of 1839 protection was extended in the widest sense, being not confined to the original trade, namely, the linen trade, but being granted in respect of original designs for novel patterns, and new shapes of *any* article of manufacture whatsoever, and this wide range of subject matter to which copyright was given still holds good today.

It must be emphasized that registered designs must not be confused with artistic copyright. Thus an artist obtains protection for his pictures under the Copyright Act of 1956, whereas the originator or inventor of a novel design for an industrial article obtains his protection by *registration* under the Designs Act.

Designs are registered for a term of five years and can be extended for two further periods of five years each, so that the maximum duration of protection is fifteen years. Trade marks can be registered *at any time,* but designs, like patents, have to be applied for *before* being put into use.

Registration

The difference between a trade mark, a design, and a patent is often puzzling, but is really quite simple if you think of it like this:

Nearly everything is registrable as a design unless it has moving parts and the novelty can be appreciated by the eye, otherwise a patent is called for in order to protect it adequately. Sometimes a design and a patent are applied for but care must be taken to see that both forms of protection are applied for simultaneously, as it is a long-established practice of the Patent Office to accept only *unpublished* designs and any disclosure may invalidate the application for registration.

As already stated, a design cannot be registered as new if it has already been sold in the shops. Thus a man who thinks of a new design should be very careful to get it registered *before* even sending it to a firm for production. If someone thinks of a new design but is not sure if he wants to use it or go to the expense of a registration to protect it, he need not hesitate as the expense of registration, including the services of a Design and Trade Mark Agent, is usually only a matter of approximately six or seven guineas including Government Stamp Duties.

Drawings or photographs are filed with the application, whichever are the most suitable to illustrate the particular article, and these can, if required, be supplied by the agent filing the Design Application.

New materials offer new scope for design. Many of our traditional designs have been limited by the use of the material in which they have been made but now all the new materials—Nylon, Polychron, etc.—each opens up a new field of possible design, capable of being protected by registration.

TRADE MARKS

Early trade marks

It is certain that trade marks have been in use from a very early date; their origin must have been lost in the mists of antiquity. From the earliest times traders have recognized the value and importance of a trade mark for their business.

Although Letters of Protection or Letters Patent were granted for new inventions and records kept of such grants from time immemorial, official records of trade marks were not kept until the advent of the Trade Marks Registration Act of 1875, under which provision was made for a Register of Trade Marks. It should be mentioned here that there is a Register (which at one time included trade marks) at Stationers' Hall, and this will be referred to later on.

One can visualize a craftsman in the early days marking his goods in such a way that buyers would be able to distinguish his products from those of another. In the year 1266 a law was enacted by Parliament to the effect that 'Every Baker shall have a (signum) mark of his own for each sort of bread in order that would-be customers should know what kind of bread they were being offered'. A hundred years later it was decreed that no goldsmith or silversmith in the City of London should sell wrought silver of less than sterling fineness, the mark of every goldsmith to be known to the Wardens of the Craft. This wise provision guaranteed the excellence of the article and rendered it easily identified. In the Middle Ages before reading and writing became general, signs and symbols were in universal use to assist identification.

Scotland's earliest known printer, Andrew Myllar, used a distinctive device consisting of a windmill with a miller, carrying a sack on his back, standing on a long ladder with two shields on either side of the picture, which also contains fleur-de-lis devices, a row of flowers and the printer's name occupying the foot portion.

Signs which distinguish certain trades have been in extensive use for many years. In this connection one naturally thinks of the familiar mortar and pestle of the chemists, or apothecaries as they used to be termed in days gone by. The three golden balls of the pawnbrokers are still with us. They are the emblem of St Nicholas who is said to have given three purses of gold to three sisters to enable them to marry.

While on the subject of traders' signs, passing reference should be made to inn sign-boards which are familiar to everyone, and are certainly of great antiquity. These inn sign-boards, many of which are very distinctive and original, owe their origin to the period when the great majority of travellers were unlettered and the sign-board with its distinctive device was easily remembered and quickly identified. 'Ye old Fighting Cocks' Inn at St Albans, with its sign-board depicting a pair of cocks fighting, is probably the oldest inn, as the inn makes the bold statement that this is the oldest inhabited house in the country. The ancient claim that the inn was established before the Flood is explained when it is understood that the 'flood' in question was a local affair, an overflowing of the River Ver, and not the deluge in which Noah floated!

Some famous trade marks

Many interesting stories are told about some famous trade marks. Perhaps one of the best-known trade marks is a simple geometrical design which has been before the public for many generations. The story is told that a faithful member of the proprietors' staff waited all night on the steps of the Patent Office in order to get first place on the Register for the mark under the original Trade Marks Act. This little story may be only legend, but the fact remains that on consulting the Register the trade mark referred to is 'Registered Trade Mark No. 1'.

A well-known Glasgow company, founded about two hundred years ago and having interests in many commodities including cotton and tea, adopted in the year 1876 the coat of arms of the City of Glasgow as their trade mark. It is very rare for a commercial concern to have the privilege of using and registering a city's coat of arms, but in view of the company's prominent position in trade the Glasgow City Council duly granted their permission for the use of the City's arms as a trade mark by the company which was registered in the year 1876 under No. 5238.

The well-known company of Wedgwood, world famous for pottery of the highest quality, celebrate their bicentenary this year—having been established in the year 1759. It is believed that their trade mark WEDGWOOD has been in continuous use since that year.

To give another example of a very old trade mark the famous Turkey Paper Mill, Maidstone, Kent, which has been functioning since the seventeenth century, has continuously used the well-known trade mark

ORIGINAL
Turkey Mill
Kent

The Registration is No. 439 of 8th January, 1876, and contains the note—'Used seventy years before 7th January 1876'. The Turkey Mill, Kent, is one of the oldest paper mills in this country and is associated with the well-known name of James Whatman, the celebrated Kent paper-maker. Whatman adopted his own name as a trade mark in the year 1770 and Whatman is as well known today in connection with hand-made paper of the finest quality.

Ascertaining the novelty of a proposed trade mark

It is of importance that the novelty of a proposed trade mark name, label, or the like, should be ascertained before a formal Application for Trade Mark Registration is made, and also before a trade mark is put into use, otherwise the user may render himself liable to damages in addition to the probable necessity of having to scrap all printed matter in order to change his trade mark name, or label. Such instances are by no means rare. It is therefore expedient to take the precaution of having an investigation made in the Trade Mark Registration Records before printing off the required supply. A further advantage in having an investigation made is that traders will have a good idea as to the chances of success of an Application for Trade Mark Registration without having to wait for the Patent Office Report on an Application. Further, many traders do not feel justified in incurring the expense of effecting *Registration* before a new name, label, or brand has been put on the market, but it is always advisable to have an investigation made and the matter of Application for Registration can always be considered after the trade mark has been in use.

It is of importance to note that in many cases a company registered under the Companies Act trades under a trade mark name which is also registerable under the Trade Marks Act. The search which the Registrar of Joint Stock Companies makes does not cover the Register of *Trade Marks* and a separate investigation should therefore be made, otherwise a new company may find itself in the awkward position of having to change its name.

I have in my possession a complete library of official Trade Mark Registration Records from the earliest period to the current date. These records are invaluable and are constantly being searched to ascertain particulars of prior registrants for all classes of goods.

The application for registration

The preparation of the application documents is specialized work and is usually attended to by a qualified Trade Mark Agent, whose duties are dealt with later on. All applications when officially accepted are advertised in the *Official Trade Marks Journal* and have to lie open for a period of one month from the date of publication. Any person who has grounds of opposition to the registration of any of the marks therein advertised before registration may lodge formal Notice of Opposition. In the event of no objection being entered against an application advertised before registration, the Certificate of Registration may then be obtained in complying with official requirements.

Trade marks used for the Colonies and abroad

As registration in this country does not afford protection abroad, trade marks should be registered in those countries from which orders have been or may be received.

Separate applications are now necessary for Eire.

Registration in the various countries abroad is in force for all time, subject to renewal at varying periods.

Trade mark agents

The Patent Office in its printed instructions advises applicants for Trade Mark Registrations that it does not undertake to give legal advice or opinions on any subject connected with Trade Mark Law, which, like most other laws, is left to the interpretation of professional men, i.e. Trade Mark Agents. A qualified Trade Mark Agent should therefore always be employed to carry through all formalities.

The Trade Mark Agent is also frequently able to give the trader much valuable assistance and advice in the design and use of trade marks.

A writer in *The Times Trade and Engineering Supplement* states: 'It is in the highest degree imprudent to attempt even the simplest and most unquestionable registration without the assistance of a qualified Agent, who should be one of those specialising in the Trade Marks Branch. Many pitfalls are thus avoided. Often a mark which would be refused by the Registrar can by some trifling modification be made acceptable; and it is better to make such alterations before applying rather than afterwards. The Trade Mark Agent will also search the records for marks possibly conflicting with the proposed design or wording. It often happens that some old mark no longer used would be a bar. The proprietor may dispose of his rights in this registration if tactfully approached; and he is more likely to do so cheaply before the Registrar appears on the scene than afterwards. The Trade Mark Agent will also warn the owner of marks which he has registered when they are due for renewal—a date which owners of trade marks surprisingly often forget. Thus it is wise, on all grounds, to invoke professional assistance.'

Stationers' Hall Registry

It is believed that the company established its Copyright Register at the beginning of the sixteenth century, though there was probably an earlier one. In the year 1842 Parliament made registration a condition of the right to sue for infringement of copyright, and since that date the term 'Entered at Stationers' Hall' has become a recognized term throughout the world.

The most important and valuable possession the company has is its Register. With the exception of five years, 1571 to 1576, this Register is complete from the date of the incorporation of the company in 1556. The Register provided for the entry of the titles of all copies belonging to members of the company, and when a copy was transferred from one member to another it was effected by an entry in this book. Registration was compulsory and the entry of a copy as belonging to a certain person gave the latter the exclusive right of printing the same. Sometimes it has been stated that this Register covered all books and other publications issued after the date of its beginning, but this was not the case. The Register was originally only for members of the company.

It is worth noting that Registration at Stationers' Hall pursuant to Act of Parliament terminated on 31st December 1923, and that the Registers of Entries prior to 1912 are now kept at the Public Records Office. A new Register, however, has been established at Stationers' Hall in which books, all kinds of printed matter, fine arts and assignments of the same can be registered and searches made.

This Register is not a continuation of the former Register, but is entirely separate and distinct; it is not kept under the provision of any Statute, and the entries made therein are for the purpose of record and for assisting in the proof of the existence of a work on a given date in case of infringement.

Books, films, synopses and scenarios, pamphlets, maps, charts, music, business and trade circulars, catalogues, price lists, commercial documents, sheets of letterpress or other compilations, whether published or unpublished, are included under the term 'Book', and paintings, drawings, designs, labels, photographs and engravings may be registered as 'Fine Arts'.

Armorial Bearings

When armorial devices form part of a trade mark sought to be registered, the Registrar of Trade Marks will refer the application, if it is from Scotland, to the Lord Lyon King-of-Arms for his report (applications from England containing armorial bearings are referred to Garter King-of-Arms). The Lord Lyon bases his report upon the Statute of 1672 cap. 47, which provides that it is a statutory offence for any person to use armorial bearings to which they are not entitled as grantee or successor under a Matriculation, each of which have to be recorded in the Public Register of All Arms and Bearings in Scotland. This is a necessary provision because, of course, it would be futile to run a public register and legal rights in arms if anybody could usurp and assume unto themselves arms without having obtained a proper Grant and Feudal Title. Many distinguished people use their arms in what is a trade mark sense in connection with estate products.

There is a tendency at the present time for traders to adapt a coat of arms for trade mark purposes. Generally, such a trade mark looks most impressive for certain uses in trade.

THE TECHNICAL LIAISON SERVICE, SCOTTISH COUNCIL (DEVELOPMENT AND INDUSTRY)

PROFESSOR CHRISTOPHER MACRAE, C.B.E., D.PHIL.
Royal College of Science and Technology, Glasgow

Aslib Scottish Branch Meeting, Glasgow, 6th February 1959

NOTHING is more important and beneficial than the acquisition and expansion of knowledge. Indeed, perhaps the only real hope for humanity in its present portentious situation lies in the dissemination of more perfect knowledge sufficiently widely and sufficiently quickly to prevent the imperfect from erupting into irreparable disaster. It is, however, also important not only to have knowledge but to know what knowledge is available and where to obtain it—a sentiment with which I venture to believe that librarians, who are the custodians of knowledge, will readily agree. In the operation and development of industry, knowing what knowledge is available and where to find it is of supreme importance. Sometimes help is required to bring to notice knowledge which is available but of which there is insufficient awareness. This is the reason for the existence of the Technical Liaison Service about which I have been asked to say a few words.

When last I had the privilege of addressing the Scottish Branch of Aslib I was Secretary of the Scottish Council (Development and Industry). My responsibility in that capacity was to help in the betterment and expansion of the Scottish economy in every possible way, but particularly in the growth of industry, the creation of new industry and the fostering of the conditions out of which new industries should automatically grow. I became and remain convinced that basically the real germinating points of future industrial growth lie in *a.* people and *b.* knowledge. It was for this reason, if I may introduce a personal note for a moment, that I switched over to trying to help in the development of the people who manage industry and, still more, those who will manage it in the future, instead of remaining concerned only with the physical expansion of industrial capacity. People of the right type and more and better knowledge are the two pillars on which alone our material future can safely rest. One must, so far as possible, try to bring together the people and the knowledge.

From experience in the Scottish Council, there seemed some years ago good reason to believe that quite a number of industrial concerns, especially the smaller ones, were handicapped by difficulties which could be overcome with reasonable ease, or were prevented from undertaking development which would not be over-difficult to achieve if those responsible for these undertakings had access to sources of quite readily available information and assistance about which they did not know. To establish whether or not this were so, the Scottish Council (Development and Industry), with the co-operation of the Department of Scientific and Industrial Research and with the assistance of Conditional Aid Funds, instituted during 1955–56, on a temporary and exploratory basis, a Technical Liaison Service to ascertain whether there was a need for improving channels of communication between industrial undertakings in Scotland and sources of information and help which could assist them in obtaining solutions of technical problems or improving methods of operation. The service was conducted for a period of nine months. It was carried out by three investigators who had had extensive experience of industry and administration, with substantial assistance from the Scottish Council staff and under the guidance of a Steering Committee representative of industry, the universities and colleges, under the chairmanship of Mr D. M. Semple, chairman and managing director of the Mirrlees Watson Company Limited.

The experimental service produced decisive evidence of the need for improved communications between industrial companies and sources of information and assistance. While the service was in being it helped 109 firms to find solutions for 223 problems with which they had been unable to deal successfully from their own resources. The report of the Steering Committee which supervised the service has been published by the Scottish Council (Development and Industry) and has been the subject of a booklet—*Small firms with big problems*—produced by the Department of Scientific and Industrial Research. In this booklet the major findings of the experimental survey are summarized as follows:

> '1. Firms in the survey were relying predominantly on trade contacts and other firms for information on new developments and techniques, and were accordingly in danger of operating within a closed circle.
>
> 2. A few firms had ample technical resources, but most had few or none.
>
> 3. Although many of the firms seemed to be attempting creative adjustments to new circumstances, only ten of them were managing to do so without introducing violent and disruptive changes. There were many reasons for this, but a predominant one was lack of technical information on which long-term plans could be based.
>
> 4. Most firms were having difficulty in answering from their own resources some of the problems which affected their future plans; they discussed these with the TLS.
>
> 5. Half the problems had been previously abandoned, or were defined for the first time during discussions with the team, or with the staff of research and other organizations introduced by them.
>
> 6. Answers to over 70 per cent of the problems were found by the TLS during the survey. The information required was in existence, but in sources unknown to, or unused by, the firms.'

The main recommendation in the report of the Steering Committee was that immediate steps should be taken to establish a Technical Liaison Service on a permanent basis in Scotland. The report, with particular emphasis on this recommendation, was submitted to the Government through the Secretary of State for Scotland and was the subject of extensive negotiation. As a result, the Scottish Education Department undertook to make funds available for an initial period of three years for the provision, under the Department of Industrial Administration of the Royal College of Science and Technology, of a service of liaison with Scottish manufacturing undertakings on technical and organizational problems and projects. One justification for attaching this service to an academic department of industrial administration was that considerably more than half of the problems encountered while the experimental service was in operation were organizational rather than technical.

The present Technical Liaison Service has been in operation for some five months. Services of a similar nature have been established, with assistance from the Department of Scientific and Industrial Research, in certain industrial areas in England, notably Birmingham and Manchester, and progress has been made towards the institution of services of the same kind in a number of other regions in England and Wales.

In our own service we were fortunate in securing as Technical Liaison Officers Mr P. P. Moulton, formerly of Imperial Chemical Industries Limited, and Commander H. W. Head, M.I.MECH.E., M.I.N.A., both of whom have had very extensive experience at senior level in industry and administration and both of whom were employed as investigators by the Scottish Council (Development and Industry) in their experimental Technical Liaison Survey. When it was inaugurated the service received a considerable amount of free publicity in newspapers and journals, partly owing to the publication at about the same time of the Scottish Council report on their Technical Liaison Survey and the Department of Scientific and Industrial Research booklet *Small firms with big problems*. Letters giving information about the service were sent to a very large number of individual companies, including many of those with whom contact had previously been established under the Scottish Council scheme. Communications were also addressed to organizations such as the Federation of British Industries, the National Union of Manufacturers, the Scottish Chambers of Commerce, trade associations, learned institutions, professional bodies, and other corporate entities, inviting them to bring the service to the notice of their members. In all cases it was emphasized that the service is free, confidential and provided both to meet a revealed need and to augment the Department's contacts with industry. In these and other ways we continue to endeavour to bring the service to the notice of those who might benefit from it and a number of spontaneous inquiries have been received.

The main sources of information and assistance hitherto utilized are the following:

The Royal College of Science and Technology: all departments including the library;
The Department of Scientific and Industrial Research: Headquarters, Scottish Office, Mechanical Engineering Sciences Research Laboratory, National Physical Laboratory, National Chemical Laboratory, Technical Information Distribution Unit and Research Associations;
The Scottish Council (Development and Industry);
The Federation of British Industries;
The National Union of Manufacturers and various Employers' Associations;
Individual industrial companies known to be reliable, and—very important—libraries.

I should like to take this opportunity of expressing my gratitude for the unstinted and valuable assistance we receive from libraries, and particularly from your Chairman.

The Liaison Officers maintain close contact with the organizations which I have just mentioned and a number of others both in Scotland and in England. We also endeavour to keep in touch with similar services in other parts of the country and overseas. Appropriate background information is being collected and filed as opportunity occurs, and suitable reference books are being obtained as essential working tools.

To date visits have been paid by the Liaison Officers to well over a score of firms and forty-five individual problems have been dealt with, of which the following are typical:

Organizational problems;
Equivalent British steel for German specification;
Local facilities for flame hardening;
References for cam design;
Use of transistors;
Design of 'Whale Markers';
Special methods of painting;
Material for micro-switch contacts;
Electronic controls for machine tools;
Design of and equipment for a metallurgical laboratory and assistance in obtaining metallurgists;
Obtaining special pressure gauges and special flexible couplings;
Switchgear design and testing of circuit breakers;
Loan of multibeam oscillograph;
Developing accelerated tests for silicone-coated pans;
Water pipe corrosion;
Abrasiveness of industrial dusts;
Formulating market survey and research;
Improvement of magnesite cement;
Characteristics of airblower;
Hardness tests on new slides for lathes;
Suppliers of special toggles;
Suppliers for gilled S.S. tubes;
Equipment for drying wetted linseed, avoiding oxidation;
Control of molasses feed to mixer to give accurate proportions;
Special pump for handling effluents;
Adhesives for fixing insulating board to steel panels;
Advice on casting, welding, machining and other operations;
Identifying strange and objectionable odours.

The primary object of the service is to make existing information better known and more widely used, and to put firms with problems, or frustrated or semi-frustrated projects, in contact with established sources of information and help. When necessary advice is obtained from other countries and particularly from across the Atlantic, and, when necessary too, original investigation or research is undertaken or commissioned. We try to help with every case presented to us and to let no problem which is brought to our notice remain unsolved, if solution to it there be. If the Technical Liaison Service can in its own field serve as a bridge between knowledge and those who need it, it is fulfilling its purpose.

SELECTIONS FROM THE RECENT LITERATURE

Books and Pamphlets

AMERICAN LIBRARY ASSOCIATION
Proceedings of the Institute on State Field Consultant Services, January 24–26, 1958. Chicago, A.L.A., 1959. v, 66 pp.

AMERICAN SOCIOLOGICAL SOCIETY
Current sociological research, 1959: a listing of research in progress as reported by members of the American Sociological Society. N.Y., the Society, 1959. [2], 85 pp. $1.

J. J. BERLINER AND STAFF
Establishing and organizing technical libraries in industrial plants. N.Y., J. J. Berliner, [1958]. 48 pp.

BLETON, JEAN
Local et mobilier des bibliothèques publiques. Paris, Ministère de l'Education Nationale, Direction des Bibliothèques de France, 1958. 150 pp., illus. (Instructions sommaires pour l'organisation et le fonctionnement des bibliothèques publiques : 4.) 650 *fr.*

CANADA. Dominion Bureau of Statistics. *Education Division*
Survey of libraries, 1954–1956. Ottawa, the Bureau, 1959. 109 pp., tables. $1.

COLLISON, ROBERT L.
Bibliographic services throughout the world: 5th annual report 1956. Paris, Unesco, 1958. 197 pp. [Unesco/CUA/89.]

CONOVER, HELEN, *compiler*
A guide to bibliographic tools for research in foreign affairs. 2nd ed. with supplement. Washington, Library of Congress, 1958. [6], 145, 15 pp. $1.25.

CONSIGLIO NAZIONALE DELLE RICERCHE. Centro Nationale di Documentazione Scientifica
Note di bibliografia e di documentazione scientifica. Rome, Centro Nazionale di Documentazione Scientifica, 1958. 96 pp.

FRANCE. DIRECTION DES BIBLIOTHÈQUES. *Commission Nationale de Bibliographie*
Les bibliographies internationales spécialisées courantes françaises ou à participation française. Paris, Bibliothèque Nationale, 1958. 95 pp. 400 *fr.*

GREAT BRITAIN. Ministry of Education. *Committee on the Structure of the Public Library Service in England and Wales*
Report. London, H.M.S.O., 1959. iv, 57 pp., tables. (*Chairman*: Sir Sydney Roberts.) 3*s.* 6*d.*

*HENDERSON, G. P., *editor*
Reference manual of directories: an annotated list, index and guide to the directories of all countries. Part 7: Canada. London, Jones & Evans Bookshop Ltd., 1959. xiv, 54 pp.

HODGSON, JAMES G.
Size and services of a research library as related to the parent organization. Natick, Mass., Headquarters Quartermaster Research & Engineering Command, U.S. Army, 1958. 13 pp.

HOSTETTLER, RUDOLF
Technical terms of the printing industry. London, Redman, 1959. 195 pp., illus., diagrs. 21*s.*

INTERNATIONAL ASSOCIATION OF ELECTROTYPERS AND STEREOTYPERS, INC.
The electrotype and stereotype handbook . . . [2nd ed.]. Cleveland, the Association, [1958]. 35 pp., illus. 15 *cents.*

LESLIE, W. H. P.
The automatic retrieval of technical information. Glasgow, D.S.I.R., Mechanical Engineering Research Laboratory, 1958. [2], 17 pp. (M.E.R.L. Fluids note no. 71.)

LINDSAY, FRANKLIN A.
New techniques for management decision making. London, McGraw-Hill, 1958. 173 pp. (Consultant reports on current business problems.) 112*s.* 6*d.*

MONOTYPE CORPORATION LTD
'Monotype' book of information. New enlarged edition. London, Monotype, [1959]. 159 pp. 2*s.* 6*d.*

NEVILLE, H. H. *and* YUILL, W. E.
Translation from German for chemists. London, Blackie, 1959. xi, 139 pp. 15*s.*

O.E.E.C. European Productivity Agency
Technical information and the smaller firm: facts and figures on practices in European and American industry. Paris, O.E.E.C.; London, H.M.S.O., 1958. 69 pp. tables. (Project 296/2.) 4*s.* 6*d.*

PERCIVAL, G. S., *and* GRAHAM, R. A.
Unsewn binding. London, Dryad Press, 1959. 40 pp. 4*s.*

PRIVATE LIBRARIES ASSOCIATION
Simplified cataloguing rules. North Harrow, Middlesex, the Association, 1959. viii, 22 pp. 5*s.*

PROCEEDINGS [of the] Conference of American Scientific and Technical Abstracting and Indexing Services, Philadelphia, 1958. Philadelphia, Biological Abstracts, 1958. 27 pp.

SMITH, A. M.
The art of writing readable patents, *and* The art of communicating complex patent matters, by Harry C. Hart. New York, Practising Law Institute, 1958. 64 pp. $2.

SPACHE, GEORGE D., *and* BERG, PAUL C.
Faster reading for business. New York,

Crowell, London, Mayflower Publishing Co., 1959. xi, 298 pp. 32*s*.

TRENKOV, HRISTO
Specialna bibliografija. Sofia, Institut Bulgare de Bibliographie, 1958. iv, 235 pp.

*UNION PANAMERICANA
Directorio de librerias y casas editoriales en America Latina. 6ta edicion. Washington, Unión Panamericana, 1958. xi, 160 pp. (Columbus Memorial Library, Bibliographical Series, 2, part 3.)

*UNITED NATIONS *and* UNESCO
Teaching about the United Nations and the specialised agencies: a selected bibliography. Paris, Unesco, 1959. 60 pp. 5*s*.

UNESCO
Convention concerning the international exchange of publications adopted by the General Conference at its Tenth Session, Paris, 3 December, 1958. Paris, Unesco, 1959. 11, [2] pp.

*UNITED STATES LIBRARY OF CONGRESS. Reference Department. *Slavic and Central European Division*
East and Central Europe: periodicals in English and other West European languages, compiled by Paul L. Horecky . . . Washington, Library of Congress, 1958. v, 126 pp. 95 *cents*.

UNITED STATES. Patent Office
Storage and retrieval of contents of technical literature: nonchemical information. 2nd supplementary report. Washington, the Office, 1958. 16 pp. (Patent Office research and development reports, no. 12.) 25 *cents*.

VIRGINIA. University. *Bibliographical Society*
Studies in bibliography: papers of the Bibliographical Society of the University of Virginia, edited by Fredson Bowers. Volume 12. Charlottesville, the Society, 1959. 260 pp.

*ZAUNMÜLLER, WOLFRAM
Bibliographisches Handbuch der Sprachwörterbücher: ein internationales Verzeichnis von 5600 Wörterbüchern der Jahre 1460–1958 für mehr als 500 Sprachen und Dialekte . . . New York, London, Hafner Publishing Co., 1958. xvi, 495 pp. $12 or 90*s*.

Articles and Papers

BIRKELUND, PALLE
The Danish Bibliographical Office. *Library Journal*, vol. 84, no. 5, 1st March 1959, pp. 708–711.

BLACK, CHARLES W.
The general library and the specialist reader. *Library Review*, no. 129, Spring 1959. pp. 18–24.

CSAPODI, CSABA
Der geographische Begriff im Katalogsystem der Bibliothek. *Biblos*, vol. 8, no. 1, 1959, pp. 12–22.

DATA PROCESSING DIGEST
[Electronic data processing]: a third reading list. *Data Processing Digest*, vol. 5, no. 3, March 1959, pp. 15–20.

DAVINSON, DONALD
Automation and inter-library co-operation. *Library Association Record*, vol. 61, no. 3, March 1959, pp. 65–66.

DAVISON, J. F.
Filing business data on magnetic tape. *Data Processing*, vol. 1, no. 2, April–June 1959, pp. 113–119.

DELAVENAY, EMILE
The electronic translator. *Unesco Features*, no. 326, 9th March 1959, pp. 13–15.

DIAZ, ALBERT JAMES
Microcards, 1944–1958: a selected bibliography. *Microcard Bulletin*, no. 19, January 1959. pp. 7–19.

DUCK, L. W.
Library aids to music research: reference work in the Henry Watson Music Library. *The Manchester Review*, vol. 8, Winter 1958–9, pp. 242–248.

FRANK, OTTO
Kostensenkung im Informationswesen durch Zusammenarbeit. *Dokumentation Fachbibliothek Werksbücherei*, vol. 7, no. 3, February 1959, pp. 85–90.

HALE, RICHARD W.
The cataloguing of microfilm. *The American Archivist*, vol. 22, no. 1, January 1959, pp. 11–13.

HEILIGER, EDWARD M.
Administration of small libraries. *Library Trends*, vol. 7, no. 3, January 1959, pp. 465–471.

HISCOCKS, E. S.
Organization of science in the United Kingdom. *Science*, vol. 129, no. 3350, 13th March 1959, pp. 689–693.

IRWIN, RAYMOND
Supplementary notes to 'The origins of the English library'. *University of London, School of Librarianship and Archives. Occasional Publications no.* 9. 1959, 15 pp.

JOLLEY, J. L.
Punched feature cards: a simple, inexpensive system of processing data without resort to any mechanical aid other than a card punch. *Data Processing*, vol. 1, no. 2, April–June, 1959, pp. 86–93.

KANEVSKIJ, BORIS PETROVIČ
International exchange of publications at the Lenin State Library. *Unesco Bulletin for Libraries*, vol. 13, no. 2–3, February–March 1959, pp. 48–52.

KAPLAN, BENJAMIN
Revision of the Copyright Law. *Law Library Journal*, vol. 52, no. 1, February 1959, pp. 3–10.

KING, ALEXANDER
Some reflections on the International Conference on Scientific Information, Washington, November 1958. *Revue de la Documentation,* vol. 26, no. 1, February 1959, pp. 1–5.

KYLE, BARBARA
An examination of some of the problems involved in drafting general classifications and some proposals for their solution. *Revue de la Documentation,* vol. 26, no. 1, February 1959, pp. 17–21.

MCANALLY, ARTHUR M.
Departments in university libraries. *Library Trends,* vol. 7, no. 3, January 1959, pp. 448–464.

MUMFORD, L. QUINCY, *and* ROGERS, RUTHERFORD D.
Library administration in its current development. *Library Trends,* vol. 7, no. 3, January 1959, pp. 357–367.

MUNFORD, W. A.
Library administration in Great Britain. *Library Trends,* vol. 7, no. 3, January 1959, pp. 368–377.

OLTMAN, FLORINE A.
Significant military literature. *Special Libraries,* vol. 50, no. 2, February 1959, pp. 53–60.

SCHMIDT, HANS
Die Mikrokarte und ihre Probleme. *Dokumentation Fachbibliothek Werksbücherei,* vol. 7, no. 3, February 1959, pp. 83–84.

TAYLOR, KANARDY L.
Transportation literature, 1958. *Special Libraries,* vol. 50, no. 2, February 1959, pp. 64–71.

TRANSFER copying simplified: a month's experience with the Signet. (Tried and Tested Series, no. 51.) *Office Magazine,* vol. 6, no. 64, April 1959, pp. 286–290.

VICKERY, B. C.
Documentation research: Washington and after. The International Conference on Scientific Information and connected problems. *Revue de la Documentation,* vol. 26, no. 1, February 1959, pp. 6–9.

WEIS, MARGARET M.
The case for microfilming. *The American Archivist,* vol. 22, no. 1, January 1959, pp. 15–24.

All the above items may be borrowed from Aslib Library, except those marked with an asterisk. Most of these are available for consultation in the Library, apart from a few for which locations in other libraries can be given.

MEMBERS' ADVERTISEMENTS

FRENCH translations—technical, scientific, legal, by specialist. Roland Turkel, Licencié ès Lettres (Lille), F.I.L., 207 Ruskin Park House, Champion Hill, London, S.E.5. Tel. BRI 2499.

GERMAN TECHNICAL TRANSLATIONS, by qualified engineer, 16 years' experience (several years in Germany). Excellent references. (On Aslib Register of Specialist Translators.) C. Priest, A.C.S.M., 114 Charlton Road, Westbury-on-Trym, Bristol.

TRANSLATIONS, TECHNICAL, SCIENTIFIC, all languages, by specialists with sound technical and scientific qualifications. J. Smuts, B.SC.(ENGIN.), F.I.L., 140 Wightman Road, London, N.8. Tel. STAmford Hill 8564.

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Journal, Institution of Electrical Engineers, vols. 63 (1925), 87 (1940), 88 (1941), 89 (1942) Part I, 90 (1943), 92 (1945) Parts I, II and III; and 37 issues between December 1949 and July 1953. All unbound. Offers please to Librarian, National Coal Board, Central Engineering Establishment, Ashby Road, Stanhope Bretby, nr. Burton-on-Trent, Staffs.

Wanted

Advertiser would be pleased to have any offers of technical journals, manufacturers' literature, etc., which are surplus to requirements (especially on the chemical industry). J. C. Williams, 47 High Street, Edgware, Middlesex.

One copy each of *Science Abstracts*, section B, May and August 1942. The Librarian, Ilford Ltd, 7–9 Roden Street, Ilford, Essex.

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ASLIB PROCEEDINGS

incorporating Aslib Information

Volume 11 **June 1959** **Number 6**

ASLIB CALENDAR

JUNE

THURSDAY 25th. Furniture Group meeting at Lambeth Bridge House, 3 p.m.

FRIDAY 26th. Annual General Meeting at Aslib headquarters, 3 p.m.

OCTOBER

MONDAY 5th – WEDNESDAY 7th. Annual Conference at the Grand Hotel, Scarborough.

MONDAY 19th. Engineering Group visit to Cadby Hall, London.

NOVEMBER

WEDNESDAY 18th. Engineering Group visit to Whitefriars Glassworks.

Conference on the Presentation and Interpretation of Technical Information

This conference, organized in collaboration with the British Association of Industrial Editors, the Presentation of Technical Information Discussion Group, and the North-Western Polytechnic, was held in London on 8th May and was attended by more than 230 persons. Lord Crook was unfortunately prevented by illness from opening the conference but F. W. Rogers, General Editor, Aluminium Development Association, kindly agreed at short notice to take the Chair for the morning session. In his introductory remarks Mr Rogers pointed out that the written word is only one medium for conveying many facts, hypotheses, conclusions, criticism. The word must be subordinated to the message in its function but must be perfect in its performance. The subject was dealt with under four headings: technical writing, technical editing, presentation through non-print media, and training of personnel. The speakers were, respectively: J. W. Godfrey, F.R.S.A., formerly Editor, Technical Instructions, BBC; A. B. Robertson, Assistant Editor, *The Times Review of Industry*; Edgar Anstey, Films Officer, British Transport Commission; and Horace R. Hockley, Chairman, Moderating Committee, City and Guilds of

London Institute. F. B. Roberts, Editor, *Engineering,* Chairman of the afternoon session, made a concluding summary of the discussion. The papers and discussion will be published in forthcoming issues of *Aslib Proceedings.*

Senior Introductory Course to Information Work

A senior introductory course to information work for graduate students took place from 25th to 28th May at 3 Belgrave Square, S.W.1. It was attended by some twenty students who heard lectures on: the place of the information officer in an organization (C.W. Hanson, Head of Research Department, Aslib); sources of material (Dr A. J. Walford, Ministry of Defence, and E.P. Dudley, Ealing Technical College); recording information: adaptation of basic principles of cataloguing and classification to special library work (D. J. Foskett, Institute of Education, University of London); dissemination and exploitation of material (Miss Margaret Gauntlett, Kodak Ltd); and handling inquiries (Mrs E. Mack, Metal Industries Ltd). There was also a practical session on answering inquiries. Thanks to the courtesy and co-operation of Aslib members, the students were able to visit libraries of industrial organizations and Government departments, including the Patent Office and the Science Museum.

It has been suggested that some members might like to have a similar course run as a series of evening lectures at weekly intervals. Comments on this suggestion will be welcomed.

B. Matsukawa

Members will have learned with regret of the death, in April, of Byken Matsukawa, who had been for many years on the Register of Specialist Translators. Mr Matsukawa had made a special study of technical Japanese and had undertaken many translations for Aslib members. He had also trained other translators, both in his capacity as Lecturer in Japanese at the School of Oriental and African Studies, University of London, and during his war service with the British forces. His knowledge and advice were always at the service of those who approached him and all who knew him must have been charmed by his unassuming personality. At this time, when the demand for Japanese translations is increasing rapidly, he will be specially missed.

Sheffield Information Conference

An information conference for the Sheffield steel industry was held on 23rd April. Its purpose was to draw the attention of senior managers in the industry to the resources of information at their disposal, and to explain how these resources could be used to better advantage. C. Hurst of Samuel Osborne Ltd and G. Parkin of Mappin & Webb Ltd spoke, from the point of the user, of the value of information in industry. Three papers on sources of information were given by M.L. Pearl, Head of Library and Information Department, The Iron and Steel Institute, dealing with technical information; Dr E. Brewin, Head of Intelligence Department, British Iron & Steel Federation, dealing with commercial information; and J. Bebbington, City Librarian, Sheffield, who described the special facilities available in the City Library, which holds an outstanding collection on atomic energy and every British Patent from no. 1, issued in 1617. During discussion, the value of written recorded information and of personal contact with experts was re-emphasized, as was the need for more translations. Training in literature searching was mentioned, and the willingness of Aslib, the Sheffield libraries, and the British Iron and Steel Research Association to advise on the organization of libraries and information departments and to provide training and other help, not only in finding information but in teaching others to help themselves. The conference was sponsored jointly by the Sheffield City Library, Sheffield Chamber of Commerce, The Iron and Steel Institute, the British Steel Castings Research Association, the British Iron and Steel Research Association, and the British Iron and Steel Federation.

Postgraduate Diploma in Librarianship

The School of Librarianship and Archives, University of London, has announced revised regulations for the Postgraduate Diploma in Librarianship. Under them, the course in palaeography becomes optional and a number of alternatives, including a course on the history and literature of science, are available in its place. The course on Oriental palaeography is replaced by a course on Oriental and African bibliography, with special reference to an approved field of study. The course in the history and literature of science will lead to two examinations: the first will cover the history of science, with emphasis on developments from the seventeenth century; and the second will cover the literature and bibliography of modern science, with emphasis on contemporary problems of scientific communication. Full particulars of the revised regulations are available from the Director, School of Librarianship and Archives, University College London, Gower Street, London, W.C.1.

UDC and Documentation

The UDC and Documentation Section of the British Standards Institution is now established in an office on the second floor at Orchard House, Orchard Street, W.1. The postal address and telephone number remain unchanged as follows: UDC and Documentation Section, British Standards Institution, 2 Park Street, London, W.1; telephone Mayfair 9000.

Instrument Construction

A cover-to-cover translation of the Russian monthly journal *Priborostroenie* is now published under the title *Instrument Construction.* It is produced by the British Scientific Instrument Research Association for the Department of Scientific and Industrial Research. The first number is dated January 1959 (the date of the Russian issue). The annual subscription is £6 post free, with a special rate of £3 for university and technical college libraries, which should make application direct to the publishers, Taylor & Francis Ltd, Red Lion Court, Fleet Street, London, E.C.4.

U.S.S.R. Patents and Inventions

A cover-to-cover translation of the Russian *Biulleten 'Izobretenii,* to be known as *U.S.S.R. Patents and Inventions*, is to be published monthly by Pergamon Press.

Biulleten 'Izobretenii is sponsored by the Committee on Inventions and Discoveries of the U.S.S.R. Council of Ministers. It is published twenty-four times a year and gives information on some 10,000 patents granted annually, as well as descriptions of earlier inventions as they are released for publication. The first issue of the new translation will be ready by September and will cover the first two issues for 1959 of *Biulleten 'Izobretenii.* The annual subscription to *U.S.S.R. Patents and Inventions* will be £30, but a special introductory subscription of £25 or $100 a year is available to those placing orders before 15th July 1959, either direct with Pergamon Press, 4 & 5 Fitzroy Square, London, W.1, or through subscription agents.

Russian Patents Gazette

The first issue, dated January 1959, of a periodical containing English language abstracts of new Russian patents and invention certificates is expected to be ready this month. Abstracts are to be published twice monthly under the title *Russian Patents Gazette,* obtainable from the publishers, Technical Information Company, Chancery House, Chancery Lane, London, W.C.2, at an annual subscription of £32. The general, mechanical, and electrical section, and the chemical and chemical engineering section will be available separately at £20 per annum.

Science Information News

The National Science Foundation has issued the first number, February–March 1959, of a new periodical entitled *Science Information News: reporting national and international developments in scientific and technical information.* The object of the publication is to provide a medium for reporting new and improved methods of disseminating scientific information and news of projects sponsored by the Foundation and by other public and private organizations in this field. The first issue deals principally with the establishment of the Science Information Service. *Science Information News* is obtainable through the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. at an annual subscription of $1.25, home, or $1.75 (approximately 12*s.* 7*d.*) abroad.

Science Abstracts of China

The Institute of Scientific and Technical Information of China (formerly the Institute of Scientific Information) has published the first issues of a new bi-monthly series of abstracts in English from Chinese journals and university bulletins. The general title of the series is *Science Abstracts of China* and it is published in five separate sections: mathematical and physical sciences, chemistry and chemical technology, biological sciences, earth sciences, and technical sciences. The abstracts are detailed and informative and the cover wide; for example, the section on technical sciences contains 104 abstracts on engineering, metallurgy, and mining, from twenty-five journals. *Science Abstracts of China* are obtainable from the Institute of Scientific and Technical Information of China, P.O. Box 640A, Peking, China. No price is mentioned but it is understood that the Institute is prepared to supply the various sections on exchange.

SIGNPOSTS: SOME SELECTIONS FROM THE 1958 SPECIAL LIBRARY LITERATURE

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AT A TIME when a greatly expanded volume of research is giving rise to a mounting flood of publications, and scientists are becoming increasingly aware of the difficulty of keeping informed of all the work that may possibly be of interest to them, it is only natural that the literature on the problems and techniques of information work should itself grow rapidly. Not only is there an ever-growing number of publications of library and documentation organizations, but as more and more scientists are faced with information problems and try to find solutions to them, relevant articles appear in the scientific and technical Press. The same set of conditions causes many people engaged in industry or research, with no training or experience in library or information work, to find themselves made responsible for the organization of information services at various levels, often in localities where there is no more experienced person to whom they can turn for advice. Such people can benefit greatly from the experience of others as recorded in the literature, but they often have difficulty in finding the papers that would be most helpful among the mass of other material, some of it irrelevant to their particular conditions, much of it too advanced or theoretical, quite a lot of it pure polemics, and some just bad. It is to meet the needs of these people that this series of reviews, now in its seventh year, has been designed. It attempts to pick out each year those items likely to be of direct practical help in running a small library or information service, especially for an untrained person. Advanced research work and theoretical discussions, however important, are ignored, as also are descriptions of practice in large libraries, unless they are capable of easy application in smaller organizations. Important bibliographies and works of reference are covered, including some of the more expensive ones which the librarian of a small organization may wish to know about and consult in other libraries, although he would not add them to his own stock. Items are not confined strictly to the publications of a particular year, though most of those chosen will have been received in British libraries during 1958. Those who have followed this series over the years will not fail to have noticed that the number of references included has increased. Even so, selection has become more and more difficult, and the final decisions as to what must be rejected are inevitably personal ones. Some injustice has possibly been done, but it is hoped that all the items included will prove of value to some of those for whom they are intended.

Many people in the profession have lamented the lack of a concise book of reference on professional topics in which one could look up the meaning of unfamiliar terms encountered in the literature, and find brief summaries of important topics of professional interest. Mr. Landau[1] has attempted to fill this gap, and, although his book is only moderately successful, those working in small libraries may find it useful, provided they bear in mind its limitations, and do not attempt to use it as a handbook.

All information work must ultimately be based on an understanding of the needs of the users of the service. This involves both an appreciation of the role of information in the development of science and industry, and a study of the ways in which individual scientists seek and use information. A general survey of the importance of new ideas in industry was presented by Carter and Williams[2], while the report of the survey made by the Scottish Council (Development and Industry)[3] assesses current practice in a number of firms. The growing number of studies of the way in which scientists use information are mostly too limited in scope to be of much use to the beginner, but the paper by Cole[4], with its emphasis on the method of recording use, may prove more generally useful. Many libraries issue guides for their own users, but these are rarely of sufficient importance for mention in this survey; however, the more general guides to library use, such as that by Morton[5], contain information and advice which is helpful to the information officer who uses other libraries, and may also help the tyro librarian in the organization of his own library.

A librarian with small resources serving research or industrial workers whose needs are liable to be both urgent and unpredictable will be more dependent than others on collaboration with other libraries. He will need to understand both the general systems of library co-operation and the more informal arrangements within industry, so as to make the best use of them. An article on the general systems by Filon[6], because it is intended for Indian readers, is an admirable introduction for the beginner. Another report by the Scottish Council (Development and Industry)[7] describes one scheme evolved within industry. The urgency of the need for information in industry has made a number of organizations realize the value of the Telex system for negotiating loans and inquiries, and the report by Mack[8] on American experience of this serves to emphasize its possibilities. Theses of British universities are notoriously difficult both to obtain and to get information about, and the report by the University and Research Section of the Library Association[9] should be of assistance in dealing with this difficult material.

A sound knowledge of bibliographical sources is perhaps the most important qualification for information work, and consequently bibliographies are always given a prominent place in this review. Most important are the bibliographies of bibliographies. A new German annual[10] lists all German-language bibliographies, whether published separately or in books or journals, and even includes unpublished lists compiled by libraries. It should prove an effective counterpart to the *Bibliographic index*. For those within reach of the London area a new publication of the Greater London Division of the Association of Assistant Librarians[11], which amalgamates two former union lists which were issued separately, should prove useful for the location of more general material. Miss Schutze has produced an annotated list of sources in the scientific and technical fields[12] which should prove particularly valuable to beginners. The book by Mellon[13] is a new edition of one of the standard guides to chemical literature. The year saw the culmination of a study of international bibliographical services sponsored by Unesco, and three papers produced as part of it[14] [15] [16] are valuable for their comments on many of the bibliographies studied.

The literature of librarianship was particularly well covered in the year under review. The first issue of *Five years' work in librarianship*[17] resumes the coverage of the literature from the point where *The year's work in librarianship* ceased, and provides a general survey of developments in all fields of library work. A cumulative index to the first six volumes of *Library Science Abstracts*[18] will make literature searches easier. The printed catalogue of the Library Association's library[19] is of great value owing to the comprehensive nature of its coverage. Another important library catalogue to appear was a new edition of that of H. K. Lewis's Lending Library[20], which many libraries find useful as a bibliography.

Bibliographies on individual subjects are too numerous for inclusion in this survey, unless there is something unusual about them. That on food[21] is notable for its size and authority. The latest addition to the Controllership Foundation series on the application of computers to industrial problems[22] is more than a bibliography, since it gives details of firms in the industry and their machines and applications, in addition to a survey of the literature. J. Roland Smith's guide to British atomic energy reports[23] is a helpful introduction to a very difficult field. The U.S. Department of Commerce guide to information on American firms[24] is a kind of publication which is all too rare. Government publications were the most prominent type of publication to be given special treatment. Her Majesty's Stationery Office issued another of their valuable five-yearly indexes to Government publications[25], while Ford and Ford continued their coverage of parliamentary papers[26]. In the international sphere Roussier[27] listed the sources for the texts of treaties, while the Geneva library of the United Nations revived a much missed survey, originally published when it was part of the League of Nations, listing regular features appearing in Government serials[28]. Miss Baer produced a continuation of her analysis of the contents of the more important series[29]. Last, but by no means least, there was a new edition of Henderson's indispensable bibliography of British directories[30].

Periodicals are so important to the work of most special libraries that bibliographies of them are usually given separate treatment in this series. There were two articles discussing these bibliographies: one by Miss Hammond[31] which deals with lists produced outside the United Kingdom, and a more specialized one by Maichel[32] devoted to the thorny field of Russian periodicals. Among the lists covering periodicals published in a single country, perhaps the most welcome was a French list by Raux[33], which is a really well-produced bibliography and, if it can be kept up to date by future editions, will make up for the defects of the *Annuaire de la presse*. An authoritative list[34] was also produced in Germany. The Library of Congress produced a new and greatly expanded edition of its checklist of Russian periodicals[35], and Wepsiec a list of Polish periodicals[36]. Lists of holdings are also important in this field. The monumental work of BUCOP was completed with the final volume[37] (though a continuation is promised), and there was a new edition of the well-known Australian union list[38]. Amongst individual libraries the Patent Office produced a second edition of the list issued the previous year[39], while the new Lending Library Unit of D.S.I.R. brought out a list of its Russian holdings[40] which is especially valuable because it includes a complete list of the cover-to-cover translations.

Closely related to these was a list of medical congresses[41], a type of publication all too rarely covered by bibliographies.

Directories of sources of information are also indispensable to information work. There was a good crop of directories of libraries in 1958. Pride of place must go to the long-awaited new *Aslib directory*[42]. Other library directories on a national scale were a new and improved edition of the *American library directory*[43], another of the German list of special libraries[44], and a new Dutch list including both libraries and documentation centres[45]. In a specialized field Hewitt produced a guide which will be of value to all concerned with Commonwealth affairs[46]. Other British directories included a new edition of the official list of trade unions and employers' organizations[47], which had not been available for many years, and a learned catalogue of herbaria[48]. The French produced the first volume of a new list of learned societies[49], and a less scholarly, but nevertheless welcome, list of publishers[50]. The Germans issued a comprehensive list of research institutions[51], and F.A.O. published a directory of agricultural engineering institutions[52].

The field in which the novice is most in need of guidance is that of cataloguing, classification, and the related problems of information retrieval. It is fundamental to all information work, but is intrinsically difficult to master. Moreover, it is the happy hunting ground of the abstract theorists, the cranks, and the smart men with systems to sell. The golden rule is to master the basic principles thoroughly before toying with the newer ideas, and then try to apply them with common sense to the special conditions in which one is working. Tallman has written a good description[53] of an attempt to apply basic principles to special circumstances. Some special librarians who find the full Anglo-American code too formidable may be helped by a boiled-down version produced for school libraries[54]. Those who use alphabetical subject headings will at least want to know of the existence of a new edition of the monumental Library of Congress list[55]. Despite its size, however, this is inadequate for detailed work in technical subjects, and many libraries will welcome the new edition of the United States Atomic Energy Commission's list[56], which covers a wide range of scientific and technical subjects. Some libraries will also be interested in the new official American code for music and gramophone records[57]. Frank wrote for Unesco an admirably succinct review of the many ways of duplicating catalogue cards[58], while those considering using the B.N.B. printed card service should certainly look at the figures produced by Mr Hill[59]. In the field of classification the U.D.C. was again the most active scheme. The full tables for Class 69, Building[60], were added to the English edition. Donker Duyvis's series of articles on the official revision policy[61] [62] [63] should be read by all those using the U.D.C., because it is wise to bear in mind possible future developments in selecting numbers. Those who find the wide variety of possible alternatives in the U.D.C. bewildering, and others who have found it a trap for the unwary, will be interested in Novak's able advocacy[64] of the 'selective' editions which are becoming fashionable in Germany. New medical librarians will welcome Mr Barnard's introduction to his own classification scheme[65]. New specialized schemes included one for ceramics[66] and a chemical code intended for mechanical selection[67]. Those tempted to dabble in mechanical indexing or other advanced schemes would do well to read the excellent evaluation by Warheit[68]. An unvarnished factual account of some of the newer systems is provided in a booklet issued by the National Science Foundation[69], and a really elementary introduction to the mathematical basis of computer techniques is provided in a leaflet issued by the British Tabulating Machine Company[70]. An excellent example of what can be achieved by a common-sense application of ideas drawn from several sources to a particular retrieval problem is given in a paper by Rosser[71]. Meanwhile the more elementary aspects of information retrieval should not be neglected. Collison gives advice on the quick-reference desk index[72], a draft American standard[73] covers the conventional alphabetical index, and another paper by Collison[74] gives some tips on the mechanics of index making.

Literature on the techniques of reference work is surprisingly rare—possibly because it is largely a matter of experience and 'know-how'. The year 1958 saw the issue of a new edition of the well-tried beginner's book by Bagley[75], and a new introduction by Foskett[76]. An article by Singer[77] shows a fresh approach to the subject. In the field of library routines, two accounts of practices that have proved successful may be of use to other libraries: a periodicals binding record described by Robinson[78], and a method of periodical circulation by Jenssen[79]. Kofnovec describes an interesting attempt to apply time-study methods to a wide variety of library tasks[80]. The problems of security classification as they affect the acquisition of library materials are among the topics discussed in an article by Johnson[81]. Weeding was discussed by Wezeman[82] and Bedsole[83]. The question of weeding is also important in records work, where problems of retention were discussed in a paper by Ivey[84], a report by the Chartered Institute of Secretaries[85], and a volume issued by the Controllership Foundation[86]. In this connection McDonald[87] pointed out some of the fallacies in the common arguments for the use of microfilm for records. Microcopying for library purposes was discussed in a symposium held at Hatfield Technical College[88]. *Office Magazine* published a helpful review of photocopying processes and machines[89], and Porchez outlined the equipment needed for a microfilming studio[90]. The use of xerography for the re-issuing of out-of-print books, a new development that may have important consequences for libraries, was described by Bowman[91]. Librarians who make photocopies must observe the provisions of the Copyright Act, 1956. Woledge provided a badly needed guide for librarians[92] to the provisions of the Act, and the subject was also treated in a more general review of the legal problems affecting information work by Biske[93]. Copyright also applies to translations, and this aspect is discussed in a paper by Wünsche[94].

Library building is another topic that is not often described in the literature, and this is particularly true of special libraries. Specifications drawn up for United States Army libraries[95] may be found useful in other small libraries.

The treatment of special materials was discussed in a new book by Mason[96]. Archives and manuscripts are perhaps not common in technical libraries, but some special libraries are entrusted with the safe-keeping of the archives of the organization they serve and the papers of prominent people connected with them, and they should find the pamphlet by Hepworth[97] useful. Work has been going on at international level on reviewing standards affecting library and documentation work, and as part of the project Schuchmann produced a bibliography of the existing standards in all countries[98]. Inexperienced librarians often have difficulty in dealing with binders because they do not know how to draw up specifications or what standards to insist on. They should be helped by three American standards: two drawn up by the Library Binding Institute covering library binding[99] and prebound books[100] respectively, and one by the American Library Association for little used materials[101].

The librarian or information officer may have responsibilities for his organization's publications, ranging from assisting writers to actual editorial work. Baer discussed this aspect of library work[102], while Weil and Poland reviewed the reference books which the library should have available to assist writers[103]. The books on technical writing are too numerous for mention in this survey, but a book by Weil on technical editing[104] is unique and worth drawing attention to. If the librarian's responsibility extends to dealing with printers and seeing publications through the press he may welcome a small leaflet produced by the British Federation of Master Printers[105]. The admirable *Encyclopaedia of type faces*[106] is a most helpful work of reference, and the standard on typeface nomenclature[107] should also be available. A new non-technical periodical *Book Design and Production*[108] intended especially for users and buyers of print, will also provide much valuable information. An article on the role of the technical periodical by Pfender and Muschalla[109], which appeared in the sumptuous centenary number of the *VDI Zeitschrift*, will be of interest to an even wider audience.

The procurement and possibly the production of translations also frequently falls to the librarian's lot. Aslib organized a conference on this subject in which Liebesny suggested ways of comparing the relative costs of various ways of obtaining translations[110], while Mackay discussed the procurement of translations made by others[111]. Parker also listed organizations dealing with translations[112]. Transliteration affects a wider field than translations alone, and the long-delayed appearance of the British standard on transliteration[113], with its compromise solution of a very controversial problem, will be welcomed by all. A much enlarged second edition of the Library of Congress list of Russian abbreviations[114] is another work of reference whose value extends beyond the field of translation. Finally the *Revue de la Documentation* issued a short guide to documentation terminology[115].

LIST OF REFERENCES

1. LANDAU, THOMAS, *ed.*
Encyclopaedia of librarianship. London, Bowes & Bowes, 1958. ix, 334 pp. 63*s.*

2. CARTER, C. F., *and* WILLIAMS, B. R.
Investment in innovation. London, Oxford for Science and Industry Committee, 1958. ix, 167 pp., tables. 15*s.*

3. SCOTTISH COUNCIL (DEVELOPMENT AND INDUSTRY)
Report on a survey of small and medium engineering firms in Scotland with special reference to their needs for information and the flow of information. [Edinburgh, the Council, 1957.] iii, 174 pp., tables, mimeographed. 20*s.*

4. COLE, P. F.
The analysis of reference question records as a guide to the information requirements of scientists. *Journal of Documentation*, vol. 14, no. 4, December 1958, pp. 197–207.

5. MORTON, LESLIE T.
How to use a medical library; a guide for practitioners, research workers and students. 3rd ed. London, Heinemann, 1957. vii, 53 pp. 7*s*. 6*d*.

6. FILON, S. P.
Union catalogues in Great Britain. *Annals of Library Science*, vol. 5, no. 1, March 1958. pp. 14–21.

7. SCOTTISH COUNCIL (DEVELOPMENT AND INDUSTRY)
Small firms with big problems: a short account of an experimental Technical Liaison Service run by the Scottish Council (Development and Industry). London, Department of Scientific and Industrial Research, [1958]. [3], 24 pp. diagrs.

8. MACK, JAMES D.
Teletype speeds interlibrary loans and references. *Library Journal*, vol. 83, no. 9, 1 May 1958, pp. 1325–9.

9. LIBRARY ASSOCIATION. University and Research Section.
Availability of theses. *Library Association Record*, vol. 60, no. 1, January 1958, pp. 13–15.

10. LEIPZIG. Deutsche Bücherei
Bibliographie der deutschen Bibliographien: Jahresverzeichnis der selbständig erschienenen und der in deutschsprachigen Büchern und Zeitschriften enthaltenen versteckten Bibliographien, mit Nachweis von ungedruckten Literaturverzeichnissen von Bibliotheken und Dokumentationsstellen. Jahrgang 2/Berichtszeit 1955. Leipzig, Verlag für Buch- und Bibliothekswesen, 1958. 219 pp. DM 29.80.

11. ASSOCIATION OF ASSISTANT LIBRARIANS. Greater London Division
Reference books and bibliographies: a union list, [by] L. M. Payne [and] Joan M. Harries. London, the Association, 1957. xii, 92 pp., mimeographed. 6*s*. 6*d*.

12. SCHUTZE, GERTRUDE, *comp.*
Bibliography of guides to the S-T-M literature scientific—technical—medical. New York, the compiler, 1958. 64 pp. mimeographed. (Contributions to S-T-M library literature, no. 1.) [Available from Gertrude Schutze, 801 Ortona Park North, New York 60, N.Y.]

13. MELLON, M. G.
Chemical publications: their nature and use. 3rd ed. New York, London, [etc.], McGraw-Hill, 1958. x, 327 pp. 54*s*. 6*d*.

14. MEYRIAT, JEAN
Report on the general principles governing international bibliographical work. Paris, Unesco, 1957. 38 pp. (UNESCO/CUA/82.)

15. OSLO. Royal University Library
Unesco bibliographical publications—final report. Paris, Unesco, 1957. 106 pp., mimeographed. (UNESCO/LBA/Conf.19/5.)

16. INTERNATIONAL COMMITTEE FOR SOCIAL SCIENCES DOCUMENTATION
A study of current bibliographies of national official publications; short guide and inventory; ed. Jean Meyriat. Paris, Unesco [London, H.M.S.O.], 1958. 260 pp. (Unesco bibliographical handbooks, 7.) 15*s*.; 900 *fr*.

17. LIBRARY ASSOCIATION
Five years' work in librarianship, 1951–1955; ed. by P. H. Sewell. London, Library Association, 1958. viii, 418 pp. 60*s*. (45*s*. to members.)

18. LIBRARY science abstracts: cumulative index to volumes 1–6, 1950–1955; comp. by H. A. Whatley and Evelyn S. Whatley. London, Library Association, 1957. viii, 203 pp. 40*s*. (30*s*. to members.)

19. LIBRARY ASSOCIATION
Catalogue of the library. London, the Association, 1958. vii, 519 pp. 126*s*.

20. LEWIS, H. K., & CO. LTD. Medical, Scientific, and Technical Lending Library Catalogue. New ed. rev. to December 31, 1956. London, H. K. Lewis, 1957. xii, 1178 pp. 42*s*. (25*s*. to subscribers.)

21. BAKER, E. ALAN, *and* FOSKETT, D. J.
Bibliography of food: a select international bibliography of nutrition, food and beverage technology and distribution, 1936–56. London, Butterworths; [New York, Academic Press], 1958. xii, 331 pp. 63*s*.; $11.

22. CONTROLLERSHIP FOUNDATION INC.
Business electronics reference guide, vol. 4; Peggy Courtney, ed. New York, the Foundation, 1958. v, 602 pp. $6.

23. UNITED KINGDOM ATOMIC ENERGY AUTHORITY
Guide to U.K.A.E.A. documents; ed. by J. Roland Smith. London, the Authority, 1958. 20 pp.

24. UNITED STATES. Bureau of Foreign Commerce
Sources of information on American firms. Washington, U.S. Department of Commerce, 1957. 12 pp. 15*c*.

25. GREAT BRITAIN. Her Majesty's Stationery Office
Consolidated index to Government publications, 1951–1955. London, H.M.S.O., 1958. 137 pp. 7*s*. 6*d*.

26. FORD, P., *and* FORD, G.
A breviate of parliamentary papers, 1900–1916: the foundation of the welfare state. Oxford, Blackwell, 1957. xlix, 470 pp. (Parliamentary papers series.) 92*s*. 6*d*.

27. ROUSSIER, MICHEL
Où trouver le texte des traités européens. Paris, Carnegie Endowment for International Peace, Centre Européen, 1958. 54 pp.

28. UNITED NATIONS. Library, *Geneva*
Analysis of material published regularly in official gazettes. Genève, the Library, 1958. 39 pp. mimeographed. (Miscellaneous bibliographies no. 1.) [Text in English and French.]

29. BAER, ELEANORA A.
Titles in series: a handbook for librarians and students. Vol. 2: Books published prior to January 1957. New York, Scarecrow; [London, Bailey Bros], 1957. xxx, 1167 pp. $6.50; 61*s*.

30. HENDERSON, G. P., *comp*.
Current British directories: a comprehensive guide to the local, trade and professional directories of the British Isles. 3rd ed. London, Jones & Evans' Bookshop, 1958. xiv, 273 pp., mimeographed. 30*s*.

31. HAMMOND, MURIEL
Catalogues and bibliographies of periodicals; a survey of some foreign guides to periodical literature since 1945. *Journal of Documentation*, vol. 14, no. 3, September 1958, pp. 119–35.

32. MAICHEL, KAROL
Bibliographical guides to Russian periodical publications, 1901–1956. *College and Research Libraries*, vol. 19, no. 3, May 1958, pp. 209–16.

33. RAUX, H. F.
Répertoire de la presse et des publications périodiques françaises, 1957. Paris, Editions de la Documentation Française, 1958. xxiii, 1115 pp. 3,300 *fr.*

34. DEUTSCHE FORSCHUNGSGEMEINSCHAFT
Verzeichnis der deustchen wissenschaftlichen Zeitschriften, 1957; hrsg. von Bernhard Sticker. 4, neubearbeitete Aufl. Wiesbaden, Steiner, 1957. 63 pp. [5*s.* 6*d.*]

35. UNITED STATES. Library of Congress. *Cyrillic Bibliographic Project*
Serial publications of the Soviet Union, 1939–1957: a bibliographic checklist; comp. by Rudolf Smits. Washington, the Library, 1958. ix, 459 pp. $2.75. [Available through U.S. Government Printing Office or H.M.S.O.]

36. WEPSIEC, JAN
Polish periodicals, 1953–1956: an annotated bibliography. Washington, Catholic University of America Press, 1957. v, 169 pp., mimeographed. $3.50.

37. BRITISH union-catalogue of periodicals: a record of the periodicals of the world, from the seventeenth century to the present day, in British libraries; initiated by Theodore Besterman, ed. by James D. Stewart with Muriel Hammond and Erwin Saenger. Vol. 4, S–Z. London, Butterworths, 1958. xxxi, 630 pp. 190*s.*

38. AUSTRALIA. Commonwealth Scientific and Industrial Research Organization
Scientific serials in Australian libraries; ed. by Adelaide L. Kent. Melbourne, C.S.I.R.O., 1958. Pagination various, loose leaf binding. [Supplementing and designed to supersede *Union catalogue of scientific and technical periodicals in the libraries of Australia.*]

39. GREAT BRITAIN. Patent Office
Periodical publications in the Patent Office Library: list of current titles. 2nd ed. London, H.M.S.O., 1958. v, 258 pp., mimeographed. 12*s.* 6*d.*

40. GREAT BRITAIN. Department of Scientific and Industrial Research. *Lending Library Unit*
Titles of current periodicals from the USSR and 'cover-to-cover' translations. London, the Unit, 1957. iii, 26 pp., mimeographed.

41. COUNCIL FOR INTERNATIONAL ORGANIZATIONS OF MEDICAL SCIENCES
Bibliography of international congresses of medical sciences; prepared by W. J. Bishop. Oxford, Blackwell; Springfield, Ill., C. C. Thomas [etc.], 1958. xxii, 238 pp. 25*s.*

42. ASLIB
Aslib directory: a guide to sources of information in Great Britain and Ireland, ed. by Miriam Alman. London, Aslib, 1957. 2 v. 126*s.* (100*s.* to members.)

43. AMERICAN library directory; a classified list of 14,260 libraries with names of librarians, and statistical data compiled triennially. 21st ed. New York, Bowker, 1957. xiii, 957 pp. $22.50.

44. DEUTSCHER NORMENAUSSCHUSS
Verzeichnis von Schrifttum-Auskunftstellen der Technik und verwandter Gebiete; bearb. vom Forschungsinstitut für Rationalisierung, Aachen. 4, vollständig überarbeitete und erweiterte Aufl. Berlin, Köln, Beuth-Vertrieb, 1958. 180 pp. DM 2.75.

45. CENTRALE VEREENIGING VOOR OPENBARE LEESZALEN EN BIBLIOTHEKEN, NEDERLANDSE VERENIGING VAN BIBLIOTHECARISSEN, *and* NEDERLANDS INSTITUUT VOOR DOCUMENTATIE EN REGISTRATUUR
Bibliotheek- en documentatiegids voor Nederland. 's-Gravenhage, N.I.D.E.R., 1957. [7], 246 pp. 17.50*fl.*

46. HEWITT, A. R.
Guide to resources for Commonwealth studies in London, Oxford and Cambridge, with bibliographical and other information. London, Athlone Press for the Institute of Commonwealth Studies, 1957. viii, 219 pp. 21*s.*

47. GREAT BRITAIN. Ministry of Labour and National Service
Directory of employers' associations, trade unions, joint organisations, &c., 1958. London, H.M.S.O., 1958. x, 182 pp. 8*s.*

48. BOTANICAL SOCIETY OF THE BRITISH ISLES
British herbaria: an index to the location of herbaria of British vascular plants with biographical references to their collectors; comp. by D. H. Kent, with the assistance of E. B. Bangerter and J. E. Lousley. London, the Society, 1957. 101 pp. 20*s.*

49. FRANCE. Direction des Bibliothèques. *Comité des Travaux Historiques et Scientifiques*
Liste des sociétés savantes et littéraries. I: province. Paris, [Bibliothèque Nationale], 1958. 45 pp. 200*fr.*

50. RÉPERTOIRE des éditeurs et liste des collections. Paris, Cercle de la Librairie, 1956. 218 pp. 1,200*fr.*

51. STIFTERVERBAND FÜR DIE DEUTSCHE WISSENSCHAFT
Vademecum deutscher Forschungsstätten: Zusammenstellung der Forschungstellen der Universitäten und Hochschulen, des Bundes, der Länder und Gemeinden, der gewerblichen Wirtschaft und freien Berufe sowie der wissenschaftlichen und wissenschaftsfördernden Einrichtungen in der Bundesrepublik Deutschland einschliesslich West-Berlin. 2 Aufl. Bonn, der Verband, 1957. 553 pp. [50*s.*]

52. FOOD AND AGRICULTURAL ORGANIZATION OF THE UNITED NATIONS
International directory of agricultural engineering institutions; prepared by H. J. Hopfen. Rome, F.A.O.; [London, H.M.S.O.], 1957. 326 pp., mimeographed. $1.

53. TALLMAN, JOHANNA E.
Local cataloging for an engineering library. *Library Resources and Technical Services*, vol.1, no.4, Fall 1957, pp. 149–54.

54. SAUNDERS, W. L., *and* FURLONG, NORMAN
Cataloguing rules: author and title entries for the use of school librarians. London, School Library Association, 1957. 9 pp. diagrs. 2*s.* 6*d.*

55. UNITED STATES. Library of Congress. *Subject Cataloguing Division*
Subject headings used in the dictionary catalogs of the Library of Congress. 6th ed.; ed. by Marguerite V. Quattlebaum. Washington, U.S. Government Printing Office, 1957. viii, 1357 pp. $9.75.

56. UNITED STATES. Atomic Energy Commission. *Technical Information Service Extension*
Subject headings used in the catalogs of the United States Atomic Energy Commission; ed. by Charles W. Hargrave. 2nd rev. ed. Oak Ridge, Tenn., the Commission, 1958. 2 v. (TID–5001 (2nd Rev.))

57. MUSIC LIBRARY ASSOCIATION *and* AMERICAN LIBRARY ASSOCIATION. Division of Cataloging and Classification
Code for cataloging music and phono-records. Chicago, American Library Association, 1958. 88 pp. $2.25.

58. FRANK, OTTO
Some methods for production and reproduction of catalogue cards. *Unesco Bulletin for Libraries*, vol. 12, no. 2–3, February–March 1958, pp. 43–49.

59. HILL, GEORGE
The use of *BNB* catalogue cards at Manchester College of Science and Technology Library. *Librarian and Book World*, vol. 16, no. 10, October, 1957, pp. 192–5.

60. BRITISH STANDARDS INSTITUTION
Universal decimal classification. [Complete English ed.] 69 Building: materials, construction trades. London, the Institution, 1958. 36 pp. tables. (B.S. 1000; F.I.D. publication no. 179.) 15*s*.

61. DUYVIS, F. DONKER
Policy of revision of the Universal Decimal Classification (4): Making free numbers of two or three digits. *Review of Documentation*, vol. 24, no. 4, November 1957, p. 157.

62. DUYVIS, F. DONKER
Policy of revision of the Universal Decimal Classification (5): Co-ordination and overlapping of pure and applied sciences in classification. *Review of Documentation*, vol. 24, no. 4, November 1957, pp. 158–9.

63. DUYVIS, F. DONKER
Policy of revision of the Universal Decimal Classification (6): The specification of relationship in multidimensional classification. *Revue de la Documentation*, vol. 25, no. 3, August 1958, pp. 82–84.

64. NOVAK, ZDENEK
Klassifikation nach der Gesamtausgabe der DK oder nach einem Auszug? *Dokumentation*, vol. 5, no. 1, February 1958, pp. 10–16.

65. BARNARD, CYRIL C.
The Barnard classification: structure, distribution and use in medical libraries and documentation. *Dokumentation in Medizin und Biologie*, vol. 2, no. 3, July 1958, pp. 55–61.

66. BIBLIOGRAPHICAL classification for the ceramic industry. *P.R.E.*, no. 46–47, March–April 1958, pp. 60–88.

67. INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY. Commission on Codification, Ciphering and Punched Card Techniques
A proposed international chemical notation. Tentative version, subject to revision. London, New York [etc.], Longmans, 1958. vii, 165 pp., diagrs. 35*s*.

68. WARHEIT, I. A.
Machines and systems for the modern library. *Special Libraries*, vol. 48, no. 8, October 1957, pp. 357–63.

69. UNITED STATES. National Science Foundation. *Office of Scientific Information*
Non-conventional technical information systems in current use. Washington, the Foundation, 1958. v, 43 pp., *gr*.

70. BRITISH TABULATING MACHINE COMPANY LTD
An introduction to binary arithmetic. London, the Company, [1958]. 11 pp., illus., tables., diagrs., *gr*.

71. ROSSER, J. S.
Co-ordinate indexing in an aeronautical library. *Library Association Record*, vol. 60, no. 4, April 1958, pp. 117–9.

72. COLLISON, ROBERT L.
Desk information. *Office Magazine*, vol. 5, no. 57, September 1958, pp. 688–9.

73. AMERICAN STANDARDS ASSOCIATION. Sub-committee Z39 on Indexing Report, 1958. *Library Journal*, vol. 83, no. 9, 1 May 1958, pp. 1351–6.

74. COLLISON, ROBERT L.
Indexing at speed. *Indexer*, vol. 1, no. 1, March 1958, pp. 7–13.

75. BAGLEY, WILLIAM A.
Facts and how to find them; a guide to sources of information and to the method of systematic research. 5th ed. rev. London, Pitman, 1958. 136 pp. 10*s*. 6*d*.

76. FOSKETT, D. J.
Information service in libraries. London, Crosby Lockwood, 1958. ix, 142 pp. (Crosby Lockwood's new librarianship series, 4.) 13*s*. 6*d*.

77. SINGER, T. E. R.
The need for imagination and skepticism when making literature searches. *Record of Chemical Progress*, vol. 18, no. 1, 1957, pp. 11–29.

78. ROBINSON, MARY
A permanent binding record for periodicals. *Journal of Documentation*, vol. 14, no. 1, March 1958, pp. 12–13.

79. JENSSEN, HANS
Periodicals routing with diazo at the FAO Library. *Unesco Bulletin for Libraries*, vol. 12, no. 4, April 1958, pp. 82–84.

80. KOFNOVEC, LADISLAV
Arbeitzeitermittlung in einer technischen Literaturstelle. *Dokumentation*, vol. 5, no. 2, April 1958, pp. 34–38.

81. JOHNSON, ROBERT K.
Some facets of acquisitions work in selected military academic libraries. *Library Resources and Technical Services*, vol. 2, no. 1, Winter 1958, pp. 16–24.

82. WEZEMAN, FREDERICK
Psychological barriers to weeding. *A.L.A. Bulletin*, vol. 52, no. 8, September 1958, pp. 637–9.

83. BEDSOLE, DANNY T.
Formulating a weeding policy for books in a special library. *Special Libraries*, vol. 49, no. 5, May–June 1958, pp. 205–9.

84. IVEY, E. W.
The records to be kept for business purposes. *Aslib Proceedings*, vol. 10, no. 9, September 1958, pp. 211–6.

85. CHARTERED INSTITUTE OF SECRETARIES
The retention of documents and the use of microfilms. *Secretary*, vol. 55, no. 4, April 1958, pp. 155–60.

86. CONTROLLERSHIP FOUNDATION, INC.
Case studies in records retention and control; prepared by Jewel Moberley, Elizabeth D. Holbrook, William L. Rofes and Herbert F. Klingman. New York, the Foundation, 1957. xi, 455 pp. illus. facsims. tables. diagrs. (Series VII, no. 1.) $7.50. [Spine title: Records retention and control.]

87. MCDONALD, JERRY
The case against microfilming. *American Archivist*, vol. 20, no. 4, October 1957, pp. 345–56.

88. HERTFORDSHIRE. County Council. *Technical Library Service*
Microtexts and microrecording; the papers and discussion of a symposium held at Hatfield Technical College on the 14th January, 1958, under the chairmanship of T. G. Mercer. Hatfield, Technical College, 1958. 27 pp., plates. 4*s*.

89. PHOTOCOPYING: which method and why? *Office Magazine*, vol. 5, no. 56, August 1958, pp. 616–29.

90. PORCHEZ, JEAN
Equipement d'un atelier de microcopie. *Bulletin des Bibliothèques de France*, vol. 2, no. 10, October 1957, pp. 705–11.

91. BOWMAN, BEN C.
Xerography, possible solution to the bad-paper book problem. *College and Research Libraries*, vol. 19, no. 3, May 1958, pp. 185–6.

92. WOLEDGE, G.
Copyright and libraries in the United Kingdom. *Journal of Documentation*, vol. 14, no. 2, June 1958, pp. 45–55.

93. BISKE, V.
Some legal aspects of information work. *Aslib Proceedings*, vol. 10, no. 2, February 1958, pp. 25–37.

94. WÜNSCHE, JULIUS
Urheberrecht des Übersetzers. *Babel*, vol. 3, no. 4, December 1957, pp. 203–4.

95. UNITED STATES. Department of the Army. *Military Construction-Engineering Division*
Library: space utilization plans and design criteria for Army permanent type buildings. Rev. ed. [Washington], the Department, 1956. 10 pp. plans.

96. MASON, DONALD
A primer of non-book materials in libraries; with an appendix on sound recordings by Jean C. Cowan. London, Association of Assistant Librarians, 1958. xii, 115 pp., illus., plates., tables., diagrs. 20*s*. (15*s*. to members.)

97. HEPWORTH, PHILIP
Archives and manuscripts in libraries. London, Library Association, 1958. 30 pp. front. (Library Association pamphlet no. 18.) 5.*s* (3*s*. 6*d*. to members.)

98. SCHUCHMANN, M.
Bibliographie der Normen für das Gebiet der Dokumentation—Bibliography of standards on documentation—Bibliographie des normes pour la documentation. La Haye, Fédération Internationale de Documentation, 1958. 107 pp. (FID publ. 303.) 10*fl*.

99. LIBRARY BINDING INSTITUTE
Standard for library binding. Boston, Mass., the Institute, 1958. 19 pp., tables.

100. LIBRARY BINDING INSTITUTE
Standard for pre-library bound new books. Boston, Mass., the Institute, 1958. 11 pp., tables.

101. AMERICAN LIBRARY ASSOCIATION. Bookbinding Committee
Minimum specifications for binding lesser used materials. *A.L.A. Bulletin*, vol. 52, no. 1, January 1958, pp. 51–53.

102. BAER, KARL A.
The relationship of technical writing and library functions. *Special Libraries*, vol. 49, no. 1, January 1958, pp. 5–10.

103. WEIL, B. H., *and* POLAND, L. B.
Library aids to technical writing. *Special Libraries*, vol. 49, no. 1, January 1958, pp. 11–16.

104. WEIL, B. H., *ed.*
Technical editing. New York, Reinhold; London, Chapman & Hall, 1958. xiii, 278 pp., illus., facsims., tables, diagrs. 46*s.*; $5.75.

105. BRITISH FEDERATION OF MASTER PRINTERS
Quiz for print buyers. London, the Federation, [1957], Folded sheet. 6*d.*

106. BERRY, W. TURNER, *and others*
The encyclopaedia of type faces, [by] W. Turner Berry, A. F. Johnson [and] W. P. Jaspert. New ed. (rev. and enl.) London, Blandford Press, 1958. 358 pp., illus. 55*s.*

107. BRITISH STANDARDS INSTITUTION
Typeface nomenclature. London, the Institution, 1958. 10 pp., illus. (B.S. 2961: 1958.) 4*s.*

108. *Book Design and Production.* London, Printing News Ltd, 1958–. Quarterly. 35*s.* p.a.

109. PFENDER, MAX, *and* MUSCHALLA, RUDOLF
Die heutige und zukünftige Aufgabe der technischen Zeitschriften. *VDI Zeitschrift*, vol. 99, no. 28, 1 October 1957. pp. 1413–7.

110. LIEBESNY, FELIX
Economics of translation. *Aslib Proceedings*, vol. 10, no. 5, May 1958, pp. 115–20.

111. MACKAY, A. L.
The organization and availability of technical translation. *Aslib Proceedings*, vol. 10, no. 5, May 1958, pp. 105–14.

112. PARKER, A. G.
A short list of organizations handling translations. *Library Association Record*, vol. 60, no. 7, July 1958, pp. 222–4.

113. BRITISH STANDARDS INSTITUTION
British standard for transliteration of Cyrillic and Greek characters. London, the Institution, 1958. 23 pp., tables. (B.S. 2979 : 1958.) 12*s.* 6*d.*

114. UNITED STATES. Library of Congress. *Reference Department*
Russian abbreviations: a selected list; comp. by Alexander Rosenberg. 2nd rev. and expanded ed. Washington, the Library, 1957. ix, 513 pp. $2.75.

115. DOCUMENTATION terminology. *Revue de la Documentation*, vol. 25, no. 2, May 1958, pp. 37–44.

THE SPECIAL LIBRARIES OF INDIA

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GROWTH OF SPECIAL LIBRARIES

IN the United Kingdom the special library, in the modern connotation, developed in a world where public libraries were mature, well-established and vigorous. In India, however, the special library for the most part has preceded the development of the public library system.

In addition to the library of the Geological Survey, which is over one hundred years old, there are quite a number of libraries which can boast of a life of thirty, forty, fifty years or more. The programme of rapid industrialization of recent years has given a great stimulus to the establishment of a large number of libraries devoted to the needs of science and technology. The range and scope of these libraries is indicated in the (incomplete) list presented as an Appendix to this paper. The majority of the libraries have been developed in connection with the various Government Departments, research institutions and societies and by the research laboratories of private industrial enterprise—the same pattern in fact as in the United Kingdom, U.S.A. and elsewhere. An interesting article on Scientific and Industrial Research in India appeared in *Engineering*, vol. 187, 6 March 1959, pp. 300–2.

Quality

Most of these libraries are well-founded and considerable progress is being made towards running them on modern lines. Some few, however, have not advanced with the times and are hopelessly cluttered with accumulated junk. Staffing also presents a very difficult problem, since educated men with good knowledge of science or technology are at a premium in modern India; and the salaries offered in the library field are comparatively unattractive. On the other hand, scholarship and scholarly pursuits are held in high esteem in India and there is undoubtedly a large number of potential recruits who would find a highly satisfying career in the profession.

Training of special librarians

Training for special librarianship is a topic of very live interest in India. The present curricula of the Library Schools tend to be on classical lines with a strong academic bias. A very lively symposium took place in December 1957 in Calcutta at a Conference of IASLIC. Dr S. R. Ranganathan, in two papers, put forward a strong plea for integration of training between the special and general librarians and hoped that India would not in 'blind imitation' adopt the

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'imported confusion' from the United Kingdom of a cleavage between the two groups. Nevertheless, there is a strong current of opinion that subject background and reading knowledge of foreign languages are essential qualifications for the special librarian.

Lingua franca

English is till the primary official language of India and the language of higher education. This fact greatly assists the efficiency of the special libraries, who do not have to contend with the problems encountered in, say, Delhi University library, where books in the fourteen officially recognized languages, as well as others, have to be catered for, including the additional problems of a variety of scripts and alphabets.

Coupled with the lingua franca of English, the general adoption of the Universal Decimal Classification is of immense value in the matter of co-ordination and co-operation amongst the special libraries.

Disadvantages of distance

Some of the gravest disadvantages under which the Indian library labours are *a.* the comparative scarcity and inaccessibility of literature; *b.* the length of time it takes to obtain literature from overseas; *c.* the distances between centres. For us who work amid the immense wealth of information in Europe or America, where almost any item is available to us by telephone, a few minutes travel or a 24-hour postal service, where there is an abundance of finding organizations and services and most literature is in a multiplicity of available copies, it is hard to appreciate the difficulties which arise from a paucity of such facilities. Will colleagues present and readers of this paper, who may be called upon for information from overseas countries, please bear these disabilities in mind and supply the information as far as practicable in self-sufficient form.

Vigorous steps are being taken to overcome the difficulties and in particular should be mentioned the co-operative and co-ordinating activities of INSDOC and IASLIC. Incidentally, the bookselling trade in India is flourishing, enterprising and vigorous.

INSDOC

As you all know, INSDOC, the Indian Scientific Documentation Centre, was created from about 1950 under the auspices of UNESCO under the direction of J. Reid of Canada and A. L. Gardner of the United Kingdom. Since 1954 it has operated most efficiently under the leadership of Dr P. Sheel, who has only recently resigned. It publishes a fortnightly list of titles of books and articles of scientific interest, largely contributed by microfilm from the John Crerar Institute in the U.S.A. INSDOC runs a microfilm and photostat service, based principally upon the extensive library of the National Physical Laboratory, New Delhi, and also obtains photocopies of items not available in India. It has a central translation service, which is in constant demand from universities and information centres. INSDOC has other activities of great and potential benefit to India and South-East Asia, but these fall outside the scope of the present paper.

IASLIC

IASLIC, the Indian Association of Special Libraries and Information Centres, was formed on 3rd September 1955 on the lines of Aslib. The prime movers were the late Dr S. L. Hora, Mr J. Saha, Chief Librarian of the Indian Statistical Institute, Calcutta, Mr A. K. Mukherjee, now Chief Librarian of Jadavpur University, and Mr G. B. Ghosh, Librarian of the Geological Survey of India at Calcutta. It was immediately supported by special librarians all over India and membership at the end of 1958 stood at 61 institutional members and 261 personal members, the latter divided into honorary 6, life 2, ordinary 180 and associate 73.

The formation of IASLIC was not at first welcomed by librarians in general in India, because they apprehended that this newly formed association would take the bread out of the mouths of the existing Library Association. They could not recognize the very important fact that the country, which was then in the throes of rehabilitation, industrially and scientifically, with its chain of national laboratories, with the springing up of a number of industries and socialistic revolution, had been demanding a special service from librarians which was very much outside the scope of general librarianship and which required special techniques and special attention. This narrow outlook, however, did not long prevail and reasonable relations now exist between the associations.

IASLIC is still in the 'amateur' stage that Aslib went through during the first twenty years of its existence; that is to say, that there is no large competent full-time staff to serve its interests, but the work falls on the spare-time activities of its enthusiastic members. As such it has come into vigorous life with conferences and symposia; it has a well-produced journal; operates a documentary reproduction service and a Translation Panel; and is concerned with documentation, education, publication and publicity, library and information services and questions of co-operation.

Its programme includes a thorough and extensive survey of scientific and technical libraries of India, particularly relating to their resources and a systematic assessment of their facilities and services. A publication on the lines of the *Aslib Directory* would be a useful reference work.

INDIAN LITERATURE

An important feature is the growth of Indian scientific and technological literature. Indians have, of course, made notable contributions to the world of scientific thought for over a century, but the impetus of the present drive for development has led to a wealth of papers of high quality being published in its own technical press. This has laid an extra onus upon the special libraries of India in the analysis and notification of their own literature for inclusion in the world service of documentation. Whilst, until recently, the problem has been principally to record and introduce Western literature, the traffic is becoming increasingly two-way. But the special libraries of India have a further responsibility, in that India is the most advanced country of that huge territory usually referred to as the region of South-East Asia, comprising some twenty-one nations and a vast slice of the world's population, all avid for rapid technological advancement.

RECENT DEVELOPMENTS OF NATIONAL AND REGIONAL IMPORTANCE

Great strides are being taken in the creation of a number of institutions of a national character for co-ordinating and spreading information of Indian origin. A consciousness of the requirements informs much of the imaginative work of several leaders. The National Library is developing under the inspired leadership of Mr B. S. Kesavan in Calcutta and the *National Bibliography* has commenced publication; the Indian Standards Institution is in full swing in Delhi; the Concrete Association of India in Bombay is active. Under Mr Chandrasekhara, Deputy Director of the Indian Standards Association, India has assumed a joint secretariat of EAROPH, East Asian Regional Organization for Planning and Housing. The National Buildings Organization was set up in 1954 under the Ministry of Works, Housing and Supply, to collect and disseminate information concerning building and has assumed the responsibilities of a Regional Housing Centre. These are but random examples of development in many fields.

Building Documentation Mission

Mr Agard Evans was privileged to have a year's mission as expert adviser on building documentation attached to the National Buildings Organization under its Director, Mr C. P. Malik. He advised on the development of a national library of building, analysis and indexing home and foreign literature, the development of an abstract journal, the establishment of small building libraries and information centres in the Public Works Departments of the fourteen States; the preparation of a manual on building documentation for application in India and the East Asian Region; holding a seminar for representatives from various parts of India; and advice on a number of problems of publishing, library co-operation, and kindred matters.

In India's service

India may well be proud to have in its midst a body of special librarians who are responding to the immense challenge thrown out by the national Plans of industrialization and development. They will also help to convey to the outside world the measure of India's intellectual and technological stature. There is still a long way to go but it is definitely in the right direction.

Acknowledgment

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APPENDIX

SOME SPECIAL LIBRARIES OF INDIA

India, today, possesses representative libraries of various dimensions, covering all branches of science and technology, all specialized in their own respective fields. There are specialized libraries attached to the different national laboratories under the Council for Scientific and Industrial Research. Each of them is specialized in its own field and designed to serve its own clientele in particular.

There are many other good libraries attached to the various Ministries and attached and subordinate departments of the Central and State Governments, different scientific and technical institutions, private and commercial organizations, apart from those of the various universities and colleges. Descriptions of a few of these leading special libraries are given below:

GEOLOGICAL SURVEY OF INDIA LIBRARY

Amongst these, the oldest library is that of the Geological Survey of India, situated at Calcutta, under the administrative control of the Ministry of Steel, Mines and Fuel of the Central Government. It was founded in 1850, i.e. more than a century ago. The total stock of books and periodicals is about 180,000 volumes. Besides, it has a very large collection of reprints, reports, pamphlets, and maps, relating to its own subject field and other allied sciences. Apart from its central library, attached to the headquarters at 29 Chowringhee Road, Calcutta–16, it maintains five branch libraries attached to its Circle Offices in the States of Madras, Andhra, Lucknow, Bombay, and Jammu and Kashmir. Another branch library is also being started at Nagpur. The subjects covered are geology, with all its branches, including other related subjects like palaeontology, geochemistry, geophysics, chemistry (particularly analytical), engineering, and ground water geology, including construction and maintenance of dams and river valley projects, mining, metallurgy, scientific expeditions, and travels including geography. There is a duplicating section doing Photostating and microfilming also, to serve the department. About 600 different scientific serials are received in the library by way of exchange and purchase. The library is used not only by the 600 departmental officers but also by others, viz. research workers, students, and members of the teaching staff of different universities and colleges, business men, scientists, and other members of the public. This library maintains the depository collections of all publications issued by the U.S.A. and Great Britain Geological Surveys and receives almost all the geological publications published throughout the world. The wonderful collections of the Himalayan Club have also been housed in the Central Library at Headquarters, recently.

The library issues bi-monthly bulletins, in mimeographed form, which include, in addition to its own accessions, a comprehensive bibliography on Indian geology and other allied subjects, and an index of all periodical articles published in the foreign journals which are received in the library. It maintains this bibliography, both author and subject-wise, on cards. Such a bibliography has undoubtedly proved a very useful reference tool for searching literature on Indian geology and other related subjects. Librarian: Mr G. B. Ghosh.

TATA INSTITUTE OF FUNDAMENTAL RESEARCH LIBRARY

The Tata Institute of Fundamental Research Library came into existence with the Institute itself in 1945. The main collection, comprising about 11,200 volumes, consists of works of postgraduate research level, on physics, mathematics, and electronics. About 330 periodicals are received. This library also maintains, on behalf of the Atomic Energy Establishment, Trombay, Bombay, the depository collection of reports (full-sized and on microcards) issued by the Atomic Energy Commissions of the U.S.A., the United Kingdom, Canada, and France. This is the only depository collection in the whole of India of its kind and has, at present, nearly 40,000 reports. The Atomic Energy Commission of India has been bringing out, weekly, fairly exhaustive abstracts on the various sub-groups under nuclear science, which have been found to be very informative and useful to the Indian scientists. About 600 research workers of the T.I.F.R., and of the various divisions of the A.E.E.T. including those attached to the Indian Rare Earths Private Ltd, make use of its collection. Monthly lists of additions of volumes and fortnightly lists of additions of reports are issued. As the A.E.E.T. maintains an abstracting and translating service, it is not deemed advisable to duplicate the service at the T.I.F.R. The library is at present in charge of the Assistant Librarian, Dr M. B. Vajifdar.

INDIAN STATISTICAL INSTITUTE LIBRARY

The Indian Statistical Institute, at 203 Barrackpore Trunk Road, Calcutta–35, has a library fully equipped for studies and research in statistics and in various related subjects up to post-doctoral level. There is a book collection of about 68,000 volumes comprising theoretical and applied statistics, mathematics, physical and biological sciences, economics and related subjects, social sciences including anthropology, sociology, psychology and management, engineering and technology, humanities and general literature. There are about 3,000 general reference works. About 1,300 periodicals, covering the subjects indicated above, are received in the library. There is a collection of about 20,000 reprints, monographs, and special technical reports and documents, including a large collection of photoprints and microfilms. The library also maintains a collection of maps numbering over 260,000 sheets, the original schedules (questionnaires) working sheets, and other documents of all the 185 statistical surveys and studies conducted by the Institute so far since its inception, which provides rich material for applied studies and research in several subjects. The library's bibliographic and documentation services include regular publication of a monthly bulletin, a weekly list of periodicals received, and a monthly subject index of selected articles from current scientific and technical journals.

It provides a regular translation service from German, French, Russian, Chinese, Japanese, and Spanish. The library possesses microfilm apparatus, and Photostat and contact process portable duplicating machines. Chief Librarian: Mr J. Saha.

CENTRAL WATER AND POWER COMMISSION LIBRARY

The Library and Information Bureau of the Central Water and Power Commission of the Government of India located at Bikaner House, New Delhi, was established on 1st May 1931. About 53,000 volumes of books, 40,000 volumes of journals, 10,000 maps, plans, trade catalogues and films on irrigation and drainage, water power and electrical engineering, hydraulic engineering, civil engineering, flood control, navigation, and other related subjects are made use of by all engineer officers of both the Central and State Governments all over India. The Universal Decimal Classification is used. The library supplies selected literature or bibliographies in response to technical inquiries, on any problem or subject, received from engineers in India. Abstracts of all technical literature received in the library are prepared and issued in the form of a monthly publication called *Abstract of Current Technical Literature.* This library has a statfiling and microfilming section. It has also a service supplying to other interested organizations sets of index cards prepared in respect of literature received in the library. Chief Librarian: Mr Gian Chand.

INDIAN AGRICULTURAL RESEARCH INSTITUTE LIBRARY

There are also other big scientific libraries, attached to the Indian Agricultural Research Institute, and to the Indian Council of Agricultural Research, both located at New Delhi. The former, which was founded in 1905, at Pusa, Bihar, and later shifted to New Delhi in 1936, after the great earthquake of Bihar, 1934, has a total collection of more than 142,000 volumes on agronomy, agricultural engineering, botany, horticulture, mycology, entomology, soil science, agricultural chemistry, and other related subjects. It caters for the needs of 100 M.Sc. students, 50 Ph.D. students, 400 research workers of the Institute, in addition to research workers belonging to both Central and State Governments, semi-government institutions, and universities all over India. The Universal Decimal Classification is used. All periodical articles which are of importance from the point of view of India are indexed and circulated. It maintains a Photostat service. Librarian: Mr N. N. Chatterjee.

INDIAN COUNCIL OF AGRICULTURAL RESEARCH LIBRARY

The library attached to the Indian Council of Agricultural Research was on the other hand founded in August 1930. It has a collection of about 80,000 volumes, mainly dealing with agriculture, animal husbandry, statistics, and related subjects. In order to keep the collection of this research library within functionally efficient limits, the bulk of the unwanted publications received in the library are distributed to other libraries. The Universal Decimal Classification with some modifications is used. This library has *i.* research and information service, *ii.* bibliographic and reference service, *iii.* press-cutting service and other facilities.

NATIONAL BUILDINGS ORGANIZATION LIBRARY

The National Buildings Organization Library, 11–A, Janpath, New Delhi, was started in 1954 and contains about 10,000 books and pamphlets and receives over 200 titles of periodicals. It covers housing, building, and town planning, including materials, plant, architectural design, engineering, soil mechanics, lighting, ventilating, plumbing, and other services. It publishes monthly *NBO Abstracts* from Indian and foreign sources and serves officers of the Organization, Ministry of Works, Housing and Supply, and the Central P.W.D. Intended as the national central library of information serving P.W.D.s, engineers, and architects throughout India; it will also serve as a source of bibliographic information for the East Asian Regional Housing Centre. A trade catalogue collection is in process of formation. There is a film library. Librarian: Mr Faqir Chand.

OTHER LIBRARIES

Ahmedabad Textile Industry's Research Association,
Navarangpura, Ahmedabad-9.

All India Institute of Hygiene and Public Health,
Chittaranjan Avenue, Calcutta-12.

Central Archeological Library,
Department of Archeology, Government of India, New Delhi.
Librarian: Mr L. G. Paral

Central Botanical Library,
Botanical Survey of India, 1 Suddu Street, Calcutta-13.
Librarian: Mr S. R. Banerjee

Central Building Research Institute,
Roorkee, U.P. *Librarian:* Mr M. T. Ansari

Central Drug Research Institute,
Lucknow, U.P.

Central Research Institute,
Kasauli, Simla Hills.

Central Road Research Institute,
Delhi-Mathura Road, P.O. C.R.R.I., New Delhi.
Librarian: Mr M. C. Raghvan

Commercial Library,
Department of Commercial Intelligence and Statistics, Government of India,
Calcutta-1.

Defence Science Organization,
New Delhi. *Technical Librarian:* Mr Dhanpat Rai

Forest Research Institute and College,
P.O. New Forest, Dehra Dun. *Librarian:* Mr K. A. Isaac

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Ministry of Information and Broadcasting,
Research and Reference Division, Government of India, Room 168, 'P' Block, Raisina Road, New Delhi.

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National Chemical Laboratory of India,
Poona–8.

NPL-INSDOC Library,
National Physical Laboratory of India, Hillside Road, New Delhi–12.

Planning Commission Library,
25 Akbar Road, New Delhi–1.

Railway Testing Station,
Alipur.

Tata Institute of Social Sciences,
Sion–Trombay Road, Chembur, Bombay–38.

Tata Iron & Steel Co. Ltd,
Jamshedpur, Bihar.

UNESCO Research Centre,
P.O. Box No. 242, Calcutta.

Veterinary Research Institute,
Mukteswar, Kumaun, U.P.

Zoological Society of India,
34 Chittaranjan Avenue, Calcutta–12.

Zoological Survey of India Library,
Indian Museum, Calcutta–13.

SELECTIONS FROM THE RECENT LITERATURE

Books and Pamphlets

AMERICAN LIBRARY ASSOCIATION. Resources and Technical Services Division. *Copying Methods Section*
Library uses of rapid copiers: papers presented at the . . . 77th Conference, San Francisco, California, July 13–19, 1958. Berkeley, Ca., University of California, 1958. [39] p. gr.

AMERICAN SOCIETY OF COMPOSERS AUTHORS AND PUBLISHERS
Copyright law symposium. No. 9. . . . N.Y., Columbia U.P., London, O.U.P., 1959. xi, 212 pp. 35*s*.

AUSSCHUSS FÜR WIRTSCHAFTLICHE VERWALTUNG
Zeichnungsarchivierung auf Mikrofilm: organisatorische Richtlinien. Stuttgart, Dorotheen Verlag, 1959. 36 pp. DM 4.20.

CAVE, R.
Some systems suitable for arranging bibliographic indexes. London, British Iron and Steel Research Association, 1959. 8 pp. diagrs. gr. to mems.

*CHEMICAL AGE
1959 directory and who's who. London, Benn, 1959. 267 pp. illus. 63*s*.

DENYER, J. C.
Office management. London, Macdonald and Evans, 1959. xiv, 443 pp. illus. 45*s*.

FAIRTHORNE, R. A.
Algebraic representation of storage and retrieval languages. (Paper presented at the Washington Conference, November 1958.) 14 pp.

FOSKETT, D. J.
The construction of a faceted classification for a special subject. (Paper presented at the Washington Conference, December 1958.) 22 pp.

*FRANCE. Office National des Universités et Écoles Françaises
Répertoire des laboratoires de recherches médicales, pharmaceutiques et vétérinaires. Paris, Presses Universitaires, 1958. 528 pp., illus.

GALVIN, HOYT R., *and* VAN BUREN, MARTIN
The small public library building. Paris, Unesco, 1959. 133 pp., illus. (Unesco Public Library Manuals, 10.) 10*s*. 6*d*.

*GREAT BRITAIN. Department of Scientific and Industrial Research
Crushing and grinding: a bibliography. London, H.M.S.O., 1958. ix, 425 pp. 35*s*.

*GREAT BRITAIN. Department of Scientific and Industrial Research. *Lending Library Unit*
List of irregular serials received from Eastern Europe and the U.S.S.R. London, D.S.I.R., 1959. ii, 90 pp.

HASSENFORDER, JEAN
Présentation sommaire de la documentation pédagogique en France. Paris, Conservatoire National des Arts et Métiers, 1959. 18 pp.

HOGG, I. H., *and* SMITH, J. ROLAND
Information and literature use in a research and development organization. (Paper presented at the Washington Conference, November 1958.)

*INTERNATIONAL COMMITTEE FOR SOCIAL SCIENCES DOCUMENTATION *and* INTERNATIONAL CONGRESS OF ANTHROPOLOGICAL AND ETHNOLOGICAL SCIENCES
International bibliography of social and cultural anthropology. Vol. 2: works published in 1956; edited by Pierre Clément and J. F. M. Middleton. Paris, Unesco, 1958. 391 pp. 32*s*. 6*d*.

*INTERNATIONAL COMMITTEE FOR SOCIAL SCIENCES DOCUMENTATION *and* INTERNATIONAL SOCIOLOGICAL ASSOCIATION
International bibliography of sociology. Vol. 7: works published in 1957. Paris, Unesco, 1959. 270 pp. (International social science bibliographies.) 25*s*.

INTERNATIONAL FEDERATION OF LIBRARY ASSOCIATIONS, FÉDÉRATION INTERNATIONALE DE DOCUMENTATION, *and* INTERNATIONAL ASSOCIATION OF MUSIC LIBRARIANS
International Congress of Libraries and Documentation Centres, Brussels, September 11–18, 1955. Vol. 3: Proceedings. The Hague, Martinus Nijhoff, 1958. [4], 301 pp.

JONES, NORAH E.
Books are being read: summary of a questionnaire on the use of the library at the University of California, Los Angeles . . . Los Angeles, University of California, 1959. ii, 46 pp. (UCLA Library Occasional Paper no. 8.)

KUNZE, HORST
Wissenschaftliches Arbeiten: eine Einführung. Berlin, Akademie Verlag, 1958. 37 pp. DM 1.80.

*LIBRARIAN
Subject guide to books. Volume 1: History, travel and description. General editor: Lionel R. McColvin . . . Associate editors: K. R. McColvin and E. W. Padwick. London, J. Clarke, 1959. vii, 192 pp. 50*s*.

*LYSAGHT, AVERIL, *editor*
Directory of natural history and other field study societies in Great Britain, including societies for archaeology, astronomy, meteorology, geology and cognate subjects. London, British Association for the Advancement of Science, 1959. xi, 217 pp.

RECENT LITERATURE

MOOERS, CALVIN N.
The next twenty years in information retrieval: some goals and predictions. Cambridge, Mass., Zator Company, 1959. 18 pp.

*ORGANISATION FOR EUROPEAN ECONOMIC CO-OPERATION. European Productivity Agency
Register of research in the human sciences applied to problems of work and directory of relevant research institutions: United Kingdom. Paris, O.E.E.C., 1959. 132 pp. 3*s*.

ORSZÁGOS SZÉCHÉNYI KÖNYVTÁR
Az Országos Széchényi Könyvtár évkönyve, 1957. [Yearbook of the National Széchényi Library.] Budapest, Országos . . ., 1958. 401 pp., illus.

ROBBINS, I. D.
The present and future of the printing processes. Cleveland, International Association of Electrotypers and Stereotypers, Inc., [195?]. [24] pp.

ROBICHAUD, BERYL
Selecting, planning and managing office space. London, McGraw-Hill, 1958. xi, 361 pp., illus, tables, diagrs. $8.50 or 66*s*.

*SARINGULIAN, M. H., *compiler*
English–Russian dictionary of library and bibliographical terms, edited by P. H. Kananov and V. V. Popov. Moscow, Publishing Office of All-Union Book Chamber, 1958. 284 pp. 10*s*.

TÖRNUDD, ELIN
Study on the use of scientific literature and reference services by Scandinavian scientists and engineers engaged in research and development. (Paper presented at the Washington Conference, November 1958.) 58 pp.

TROISMONTS, R. COUTURE DE
Bases para una coordinacion bibliotecaria en la Universidad Nacional del Nordeste. Resistencia, (Chaco), Universidad Nacional del Nordeste, 1958. 25 pp.

*TRONDT, LEONHARD, *editor*
Polygraph dictionary: technical terms used in the graphic industries. Frankfurt a. Main, Polygraph Verlag GmbH, 1958. 2v.

UNESCO
Convention concerning the exchange of official publications and government documents between states, adopted by the General Conference at its Tenth Session, Paris, 3 December 1958. Paris, Unesco, 1959. [16] pp.

*UNIVERSITNÍ KNIHOVNA OLOMOUCI
Slovník knihovnických termínů v šesti jazycích: česky, rusky, polsky, německy, anglicky, francouzsky. (Dictionary of library terms in six languages.) Prague, the University, 1958. 632 pp.

WEITZEL, ROLF
Die deutschen nationalen Bibliographien: eine Anleitung zu ihrer Benutzung. Frankfurt am Main, Buchhändler-Vereinigung, 1958. 84 pp.

Articles and Papers

ASHWORTH, W.
British Nylon Spinners. *Books,* no. 322, March–April 1959, pp. 45–48. (Books in Industry—3.)

BORCHARDT, D. H.
The Bibliographic Classification of Henry Bliss: an interpretation. *The Australian Library Journal,* vol. 7, no. 4, October 1958, pp. 123–127.

BROOME, WALTER F.
Visual aids in librarianship. *The Assistant Librarian,* vol. 52, no. 3, March 1959, pp. 55–60.

BUSSE, GISELA VON
The national exchange centre, a practical guide. *Unesco Bulletin for Libraries,* vol. 13, no. 2–3, February–March 1959, pp. 36–47.

CASTAGNA, EDWIN
Nothing to lose but our routines: work simplification at the Long Beach Public Library. *ALA Bulletin,* vol. 53, no. 3, March 1959, pp. 197–200.

ELLIS, ROGER H.
An archivist's note on the conservation of documents. *Journal of the Society of Archivists,* vol. 1, no. 9, April 1959, pp. 252–254.

GROLIER, ERIC DE
La Conférence Internationale sur L'Information Scientifique. (Washington, 16–21 novembre 1958). *Bulletin des Bibliothèques de France,* vol. 4, no. 1, January 1959, pp. 3–19.

HAWKEN, WILLIAM R.
Developments in xerography: copyflo, electrostatic prints, and o-p books. *College and Research Libraries,* vol. 20, no. 2, March 1959, pp. 111–117.

HOOK, MRS. ALICE PALO
The Historical Society library. *Special Libraries,* vol. 50, no. 3, March 1959, pp. 114–118.

IGOT, YVES, *and* IGOT, MARIE-JEANNE
Les aspects de la documentation pédagogique. *La Documentation en France,* vol. 27, no. 1, January–February 1959, pp. 15–44.

JELAVICH, CHARLES
Slavic studies and library acquisitions. *College and Research Libraries,* vol. 20, no. 2, March 1959, pp. 118–124.

KOBLITZ, JOSEF
Dokumentation und Information: eine terminologische Untersuchung. *Dokumentation,* vol. 6, no. 1, February 1959, pp. 3–10.

MCDIARMID, E. W.
Current concepts in library administration. *Library Trends,* vol. 7, no. 3, January 1959, pp. 346–356.

MANSELL, V. H.
Classifying information: methods whereby it is possible immediately to trace any item or fact that is required. *Data Processing,* vol. 1, no. 2, April–June 1959, pp. 128–130.

METCALF, KEYES D.
Library co-operation: some general considerations. *New Zealand Libraries,* vol. 21, no. 8, November–December 1958, pp. 153–158.

MILLER, LINDSAY
Notes on the administration of book selection. *The Australian Library Journal,* vol. 7, no. 4, October 1958, pp. 128–130.

NAUDÉ, S. M.
The South African Council for Scientific and Industrial Research. *Nature,* vol. 183, no. 4665, 28th March 1959, pp. 853–857.

PANOV, D. YU *and others*
Automation of translating, by D.Yu Panov, A. A. Lyapunov and I. S. Mukhin. *LLU Translations Bulletin,* April 1959, pp. 16–40.

PAUER, HANS
Bild-Dokumentation der Kulturgeschichte. *Biblos,* vol. 8, no. 1, 1959, pp. 1–6.

Périodiques relatifs aux sciences administratives. *La Documentation en France,* vol. 27, no. 1, January–February 1959, 10 pp. (Aide-memoire du documentaliste.)

QUIMBY, GRACE
Writings on archives, current records, and historical manuscripts, June 1957–May 1958: part 1. *The American Archivist,* vol. 22, no. 1, January 1959, pp. 83–104.

REINHARDT, PHYLLIS A.
Photographs and slide collections in art libraries. *Special Libraries,* vol. 50, no. 3, March 1959, pp. 97–102.

SCHELLENBERG, T. R.
The future of the archival profession. *The American Archivist,* vol. 22, no. 1, January 1959, pp. 49–59.

SCHUR, H.
U.S.S.R. patent literature. *LLU Translations Bulletin,* April 1959, pp. 48–53.

Scientific journal in microfilm—an experiment in publishing. *Library Journal,* vol. 84, no. 7, April 1959, p. 1053.

SCOTT, CHRISTOPHER
The science of science: what scientists read and why. *Discovery,* vol. 22, no. 2, March 1959, pp. 110–4.

WEI CHUEH
Making Chinese easier to learn. *Revue de la Documentation,* vol. 26, no. 1, February 1959, pp. 22–24.

All the above items may be borrowed from Aslib Library, except those marked with an asterisk. Most of these are available for consultation in the Library, apart from a few for which locations in other libraries can be given.

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Journal of the Society of Leather Trades' Chemists. Vols. 21–35; 1937–51; complete. Vols. 36–42; 1952–58; incomplete.

Journal of Research of the National Bureau of Standards. Vols. 34–35, 43–45; 1945, 1949–50; complete. Vols. 36, 38, 41; 1946, 1947, 1948; complete but no indexes. Vols. 33, 37, 39–40, 46; 1944, 1946, 1947–48, 1951; incomplete. Apply to Technical Librarian, British Titan Products Company Limited, Billingham, Co. Durham.

Transactions of the American Institution of Chemical Engineers, vols. 14–42, bound and in good condition.

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Journal, Institution of Electrical Engineers, vols. 63 (1925)–87 (1940), 88 (1941)–89 (1942) Part I, 90 (1943)–92 (1945) Parts I, II, and III; and thirty-seven issues between December 1949 and July 1953. All unbound. Offers please to Librarian, National Coal Board, Central Engineering Establishment, Ashby Road, Stanhope Bretby, nr. Burton-on-Trent, Staffs.

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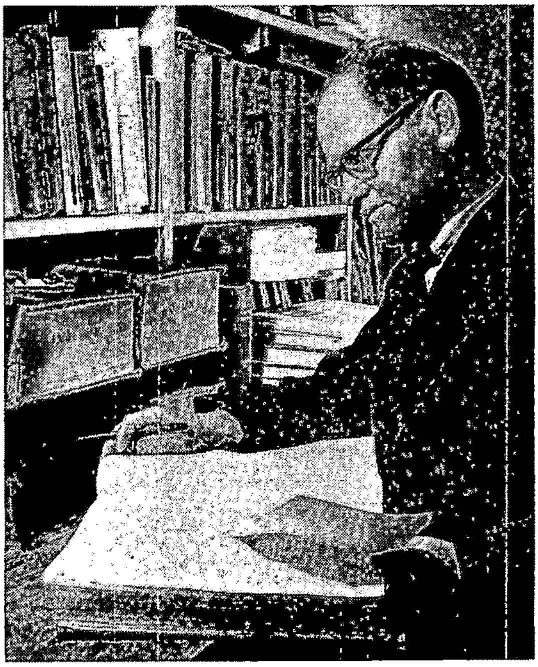

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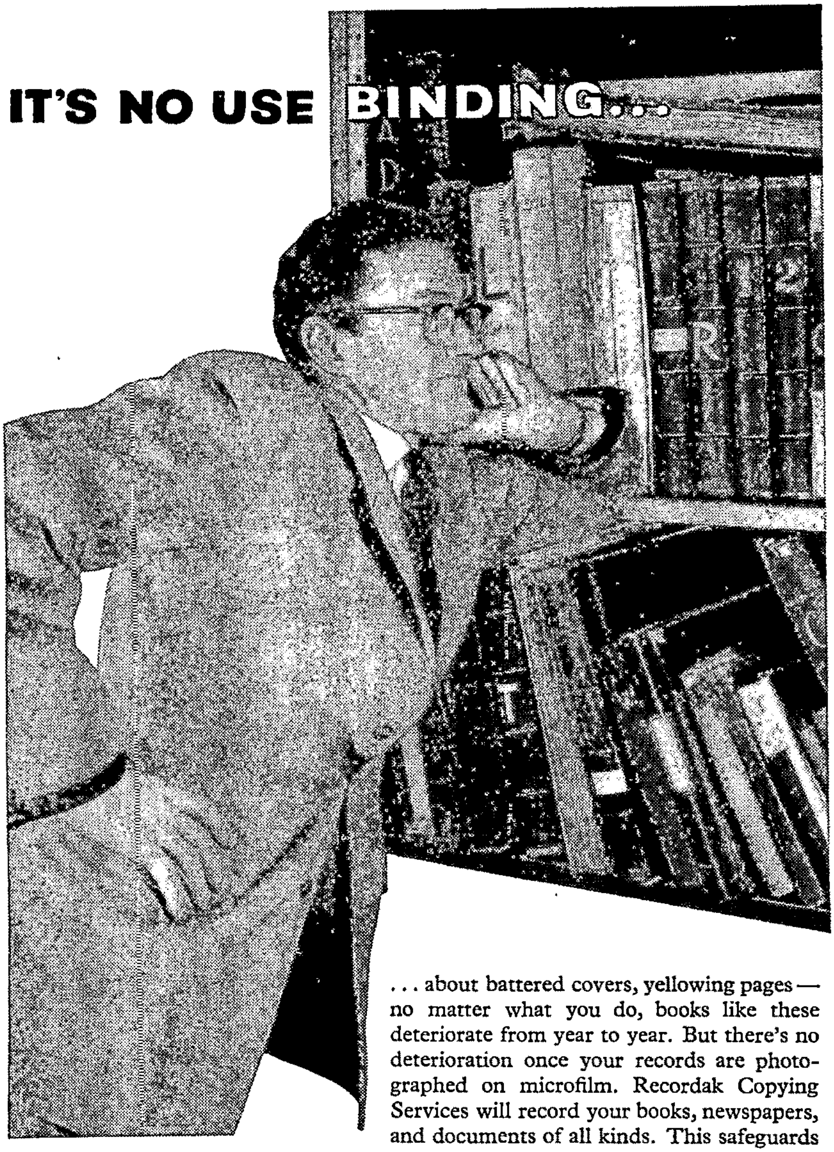

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Volume 11 June 1959 Number 6

ASLIB CALENDAR

OCTOBER

MONDAY 5th – WEDNESDAY 7th. Annual Conference at the Grand Hotel, Scarborough.

MONDAY 19th. Engineering Group visit to Cadby Hall, London.

NOVEMBER

WEDNESDAY 18th. Engineering Group visit to Whitefriars Glassworks.

London Evening Meeting

More than sixty people attended a meeting on 3rd June at Aslib headquarters, when Mr Koji Abe of the Japan Center of Science and Technology gave an interesting account of the work of the Center and its overseas services, including details of the costs, quoted in dollars, of investigation, abstracting, translation, and photocopying services. It is hoped to publish this information in a future issue of *Aslib Proceedings*.

Northern Branch Conference

A successful branch conference was held on 27th and 28th April in Liverpool. Delegates were welcomed in the Exchange Hotel by the City Librarian, Dr G. Chandler, who gave a brief summary of the importance of the shipping industry to Liverpool. After dinner, Mr A. Johnson, Librarian, British Insulated Callender's Cables Limited, gave a paper entitled 'Experience in the use of unit concept co-ordinate indexing applied to technical reports', which was followed by lively discussion. On the second day of the conference sixty-nine delegates boarded S.S. *Reina del Mar* in Canada dock, where they heard Mr W. A. Turner, Manager of Education, Training, and Research, Automatic Telephone and Electric Company Limited, describe 'What a research organization requires of its information service' and Mr J. J. Gawne, Assistant Manager, Royal Mail Lines, give a paper entitled 'Shipping'. After an excellent lunch, the delegates spent the afternoon inspecting the ship.

Furniture Group

Members of the Group visited the High Wycombe Public Library on 3rd June and were entertained with a talk on furniture making given by the Librarian, Mr. L. J. Mayes. The tape recordings of interviews with craftsmen and craftswomen in the furniture industry, with which Mr Mayes illustrated his talk, showed various techniques of hand work and formed an interesting commentary on social conditions in the industry at the beginning of this century.

O.E.E.C. Senior Visiting Fellowships

The Organisation for European Economic Co-operation has instituted a programme of senior visiting fellowships intended to assist scientific and technical institutions to incorporate into their own advanced teaching and research programmes the most recent developments in their own and other countries, and to assist in the exchange of new knowledge and techniques. The scheme is designed to enable institutions to send senior scientists and engineers to study new techniques and developments at institutions in other member or associate countries of O.E.E.C., and to invite specialists from other countries to advise on the introduction of new techniques or developments into their own teaching or research activities. The scheme will cover most fields of science and technology including the agricultural sciences, but excluding social sciences and medicine. In the United Kingdom, fellowships will be awarded by the Department of Scientific and Industrial Research on behalf of O.E.E.C. Further information and application forms may be obtained from D.S.I.R., Charles House, 5–11 Regent Street, London, S.W.1.

National Committee for High Speed Photography

This committee has recently been formed in association with the Royal Photographic Society. Its aims are to provide a representative national body for dealing with international matters in the field of high-speed photography, to organize one-day conferences in Great Britain, to stimulate and to co-ordinate publication, to assist in abstracting, and to disseminate information on the subject. The first national conference is to be held on Friday 19th September at Queen Mary College, London. The Secretary of the Committee, Dr R. F. Saxe, Queen Mary College, London, E.1, would be pleased to hear from anyone interested in the conference or in matters relating to high-speed photography.

Index Cards for Iron and Steel Translations

Catalogue cards for all translations issued by the British Iron and Steel Industry Translation Service since its inception are now available at 3*d.* each, plus postage. Cards for articles listed in 'Other people's translations' can also be supplied. Inquiries should be addressed direct to The Madonna Press, 32a Aboyne Drive, West Wimbledon, London, S.W.20; telephone Malden 6998.

Translations of Russian Technical Journals

Two further cover-to-cover translations of Russian technical journals are now available, each starting with the issue of January 1959.

A complete English-language version of *Stal* (Steel) is published by the Iron and Steel Institute, 4 Grosvenor Gardens, London, S.W.1. Annual subscription £20 (£15 to members of I.S.I.) plus 12*s*. postage, single copies £2 (30*s*.) plus 1*s*. postage. A discount of 16⅔ per cent will be allowed to libraries of universities and technical colleges ordering direct from the Institute.

An English translation, sponsored by the Department of Scientific and Industrial Research, of *Avtomaticheskaya Svarka* (Automatic Welding) is available from the British Welding Research Association, 29 Park Crescent, London, W.1. Annual subscription 10 guineas or $30.

Classification Seminar

The role of classification in the modern library will be the subject of a seminar to be held from Sunday 1st to Wednesday 4th November at Allerton House, Monticello, Illinois. It will be conducted by the University of Illinois Library School and the University Extension Division and will be the sixth in the library school series of Allerton Park Institutes. Discussion will cover such subjects as the value of the classified catalogue in research libraries, the use of Library of Congress classification for research collections, the problems involved in classifying special collections, and whether classification is accomplishing its stated aims. Further information may be obtained from Miss Eaton, University of Illinois Library School, Urbana, Illinois, U.S.A.

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THE CATALOGUING AND CLASSIFICATION OF CINÉ FILM AT THE ROYAL AIRCRAFT ESTABLISHMENT

G. CROWTHER

Film Production Librarians' Group, 9th April 1959

USE OF FILM AT THE R.A.E.

CINEMATOGRAPHY is indispensable in research and development, particularly in a field such as aeronautics. For purposes of recording and analysis, especially in circumstances where the human eye is likely to err or is unable to be present (for example the interior of a wind tunnel), the ciné film provides a permanent assessable record of exactly what happens, which is invaluable in terms of ease of reference and scope of coverage.

Two types of film production are provided at the R.A.E. by the Instrumentation Department. To meet research requirements, a large proportion of the filming is done on 35-mm. film and in slow motion (this is called high-speed photography). It is taken for analytical purposes and is used as an aid to development in most branches of aeronautical work. The Department also produces the more finished product and makes films to illustrate lectures.

ANALYTICAL, RESEARCH, AND RECORD FILMS

The films produced by the Instrumentation Department of the analytical and record variety cover all important experiments and trials and also much routine testing. Such items as parachute and missile trials, tests of ejector seats, aircraft carrier trials, ditching tests, etc., all come within the department's coverage.

Most of this film is used by the department concerned for analysis. When the film has been processed it is entered in a simple ledger in consecutive numerical order. This number is used both as a location number and as a production number, thus avoiding any confusion of the two. A positive copy of the film is then supplied to the department concerned for their examination. When the department has completed its analysis, often after a period of several months, the film is returned to the film library and is filed for future reference. Two problems face the librarian. Firstly, films often deal with subjects or aspects of subjects of which the librarian has no great knowledge, if any. It is difficult to catalogue and classify unfamiliar subjects. Secondly, the film may be several thousands of feet in length and an indication of contents must be given; this, however, is simplified because the film often relates to one single experiment or a series of experiments.

The first problem is dealt with by supplying the department concerned with a duplicated form which was developed for this purpose by the Film Library (example 1). This contains, when completed, sufficient details to allow the film to be catalogued and classified as accurately as possible.

A main entry is made out for each film. The information given and the layout of the basic entry will be dealt with later. Often composite films are produced with a commentary or titles, which review a series of trials or the development of a project, and this is treated as if it was a full-length film.

A great quantity of record film is available at the R.A.E., dating back to 1921. Up to the beginning of 1959 the total footage exceeded six million feet. The work of indexing the older material has been going on for about four years and much historical material of early experiments and aircraft has been found, and this is particularly useful to include in a film covering the development of a subject.

The other film production function of Instrumentation Department is an internal one, to record selected items of the Establishment's research work in a manner to meet the lecture, instructional and other commitments of the scientific and technical staff. It also makes records of certain current research projects. These may later be made up into lecture or demonstration films, and may also be used by the Ministry of Supply for various purposes, including release for use in newsreel and television programmes.

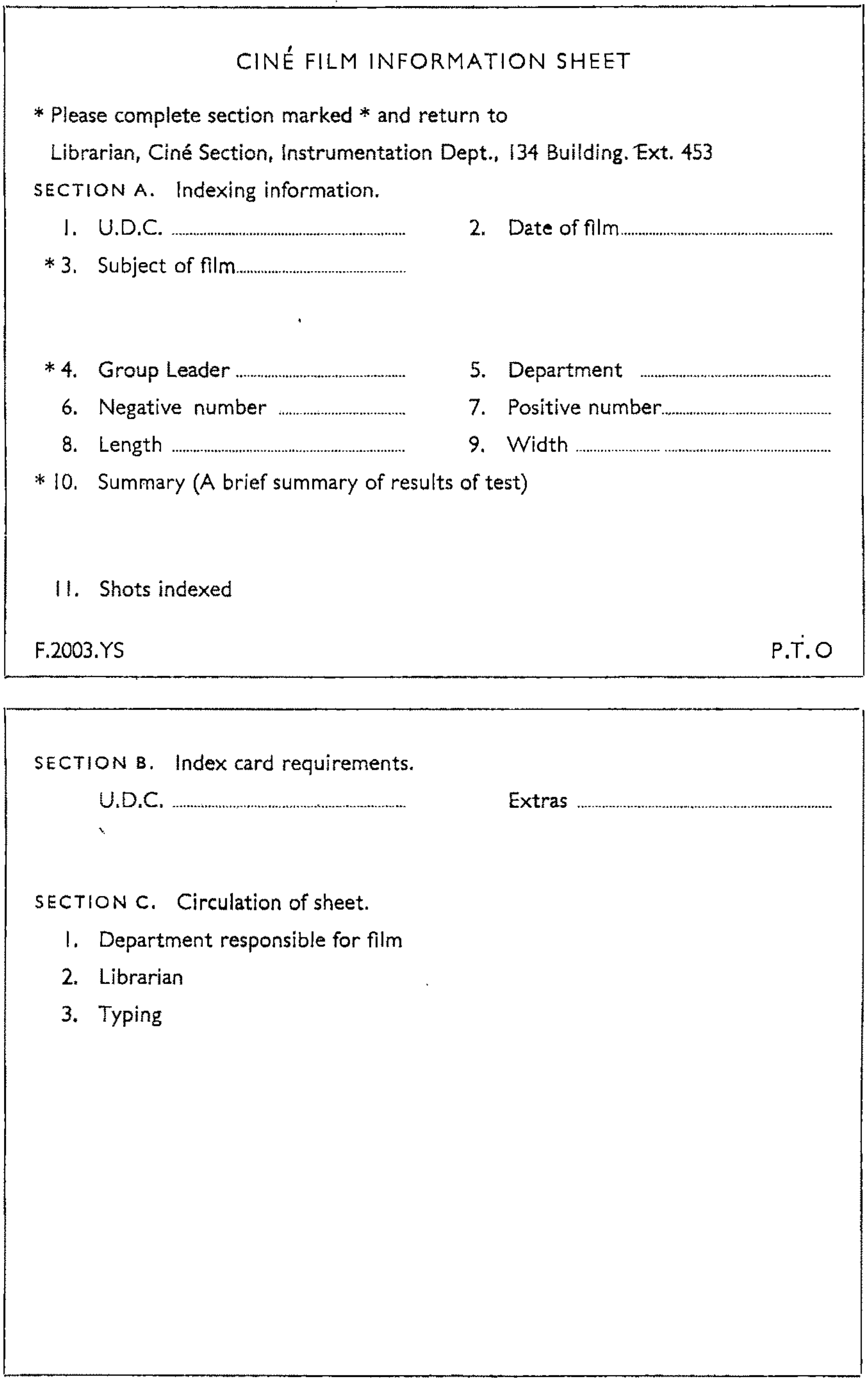
As a general rule the R.A.E. is not concerned with the issue on a loan basis of films to outside agencies—this being the function of the Ministry of Supply (T.I.L. Film Library), who usually hold one or more copies of any R.A.E. films considered to be of wider interest.

Normal full bibliographic entries are made in the catalogue for the final show copies. Perhaps a word on the method of assembling a composite film at the R.A.E. would not be out of place. After processing, the negative is usually broken down into individual shots and a brief description and the inclusive edge numbers are written on the protective leader. These are then stored in numbered cans and listed in a book, one book to each film. The positive is then edited. When the master negative, to match the cutting positive, is made up, reference to the book by edge number locates it easily and the negative is then cut to match the positive. It is usual for the librarian to make a detailed shot list of the completed film, giving edge numbers, opticals, etc. (example 2).

STOCK SHOTS

At this stage the film librarian is left with a large amount of film to be sorted and selected for placing in the stock shot library. If possible the material is sorted jointly by the librarian and the cameraman responsible, as the latter is familiar with it and can readily identify shots.

Having decided which shots to keep, the next stage is to locate the corresponding negative. This is easily done by using the book. Protective leader is now placed on both ends of the negative to protect it from scratches. The outside leader is spliced on to the negative emulsion side out, as this can be written upon with ink. On the leader is written a description of the shot, the inclusive edge numbers, and the location number. Each shot is placed in a numbered can (prefixed N and P for negative and positive respectively), these being numbered consecutively. Rolls are placed in a can until it is full and then the next one is begun. The positive can be stored as individual shots or made up into rolls of a thousand feet for convenient handling. The majority of the R.A.E. material is stored as individual shots. A catalogue card is now made out for each shot, giving a description and details of material available, inclusive



CINÉ FILM INFORMATION SHEET

* Please complete section marked * and return to
Librarian, Ciné Section, Instrumentation Dept., 134 Building. Ext. 453

SECTION A. Indexing information.

1. U.D.C. .... 2. Date of film ....
*3. Subject of film ....

*4. Group Leader .... 5. Department ....
6. Negative number .... 7. Positive number ....
8. Length .... 9. Width ....
*10. Summary (A brief summary of results of test)

11. Shots indexed

F.2003.YS P.T.O

SECTION B. Index card requirements.
U.D.C. .... Extras ....

SECTION C. Circulation of sheet.
1. Department responsible for film
2. Librarian
3. Typing

EXAMPLE 1 Ciné Information Sheet

TITLE A Review of work at the R.A.E.	REEL 7 'Aero Flights'
EDGE NUMBERS (Including frames)	DESCRIPTION
+12 28Z H30203–H30217 +11	Pilot in briefing room receiving his instructions (M.S./A.S.)
+ 5 28Z H30240–H30262 +14	View through briefing room window of Boulton Paul Delta I (Pa.S.)
+13 1Z G27236–G27243 +1	Maintenance crew working on B.P.D.I
+ 5 1Z G27176–G27194 +13	Clipping wool tufts on B.P.D.I wing (C.U. and V.C.U.)
+ 0 63Z H96292–H96300 +1	B.P.D.I (C.U./Pa.S.)
+ 0 63Z H96315–H96336 +7	B.P.D.I taxies past (M.S.)

EXAMPLE 2 A section of a typical shot list

629.139.612 : 623.822.7 '1958' D/H Vampire VII/10–11
Vampire Mk. VII brought up on deck of carrier (*Ark Royal*) by deck lift.
8Y H45124–H45150 (M.S.)
Aircraft is seen on deck of carrier
8Y H45176–H45190 (M.S.)
Close up of tail of aircraft
8Y H45160–H45167 (C.U.)
N.138 b & w 35 mm. Feb. 1958

EXAMPLE 3 A typical stock shot entry—unit entry

edge numbers (and thus automatically the length) and location number (example 3).

Of course the index can only indicate that a particular shot may be of use in a future film and the shot must be viewed before a decision is reached. This raises the problem of accessibility. Although some material is located in the Ciné Section at the R.A.E. the majority of the film is stored quite a distance away from the film library. To overcome this difficulty experiments are being carried out to determine a practical and economic method of inserting frames of the film in the catalogue card.

Sound recordings can also be treated as stock shots and the basis of a collection is emerging at the R.A.E. both on tapes and discs. It is proposed that the description should be confined to the effect and should not indicate what other sounds it may be used for.

CLASSIFICATION

When a professional librarian was introduced four years ago, the choice of a classification scheme was a difficult problem. A number of film libraries were visited at an early stage and a variety of schemes were seen. These ranged from a broad alphabetical type of subject scheme with headings such as ships, aeroplanes, crowds, etc., as used by one company, to an organization who appeared to rely upon a librarian with a photographic memory.

In the end it was decided to use the Universal Decimal Classification, a scheme already in use in the R.A.E. main library and which did appear to lend itself to the indexing of some of the technical scenes. Despite some difficulties at the beginning it appears to have been a sound choice and works well in practice.

It must be realized that much of the material exposed at the R.A.E. is of a repetitive nature—test and trials in a series may run to many thousands of feet of film and a considerable quantity of individual location/production numbers. Classification and cataloguing of these is identical in each case, but identification of each individual test must be definite; to aid analysis each test must be clearly marked and distinguishable. This is achieved by a combination of location number, edge numbers and test number, together with a careful summary within a specific classification number; although at first this may appear mechanical and obvious, it works well. Some thought is being given to the use of co-ordinate indexing, but this is at a preliminary stage only.

As you will all know, movement is difficult to indicate in the U.D.C. A separate numerical notation, for use in conjunction with stock shots on aircraft, has been developed, which enables the various characteristics of aircraft to be indicated (see example 4).

AIRCRAFT CHARACTERISTICS

Use subdivision after Aircraft name

e.g. Hawker HUNTER/3—Hunter taking off

Further subdivide by date (usually year) after main class number

e.g. 629.13 '1955' = S.B.A.C. 1955

Diagonal stroke (/) is used between aircraft name and number

1. Standing on runway or on display
2. Taxying on land
3. Take off from land
4. Flight—Ground to air
5. Flight—Air to air
6. Landing on land
7. Aerobatics 71, Loop, 72, Spin, 73, Roll
8. Crash on land
9. Catapult on land
10. Lift up to deck of aircraft carrier
11. Standing on carrier deck
12. Taxying or wheeled into place on deck
13. Take off from deck
14. R.A.T.O. Land
15. R.A.T.O. Deck
16. Landing on Deck
17. Arrester trial deck
18. Arrester trial land
19. Catapult on deck
20. Crash on deck

EXAMPLE 4 Notation developed for Aircraft Characteristics

CATALOGUING

As it was anticipated (and later proved correct) that the major proportion of requests would be of the subject type, relatively specific subjects being the rule rather than the exception, it was decided to initiate a classified catalogue. A catalogue to be of the most use must anticipate as far as possible the form in which questions will be asked of it and must provide all the information which the questioner can reasonably expect. The way in which the indexes grew up in this manner is described later.

MAIN ENTRY

It was felt that the main entry should be as simple as possible, whilst supplying all the necessary information regarding the film. The information required would be the subject, aircraft included in the film, the title, department responsible, and date. In addition the bibliographic details of the film would have to be included in the entry. Because the subject approach is all-important and because of the repetitive nature of a good proportion of the work, main entry under title, in fact any entry under title, for day-to-day filming was felt to be unnecessary. Main entry was therefore made by subject; composite and documentary films would have an added entry under title, as all films must have a title, either individual or serial.

LAYOUT OF CARD

The card size adopted was the standard 5 in. × 3 in. catalogue card. This was to conform with usual Ministry library practice and equipment. The layout of the information on the card is divided into five sections:

a. Heading. This contains class number(s) and aircraft name(s);
b. Title, Department and date produced;
c. Collation. This is the statement of the physical properties of the film;
d. Location number(s);
e. Summary and notes.

With such an obvious subject emphasis the first need on the main entry is the class number; this is placed on the top of the card, commencing at the top left margin. As this is an aircraft establishment a great deal of the material naturally deals with aircraft and missiles; in order that this emphasis may be brought out the name(s) of any aircraft or missiles appearing in the film are entered against the top right-hand margin.

Next follows the title of the film, this being usually supplied by the department concerned; one title often covers a whole series of trials or tests. The name of the department and the date of production are also noted in this section.

The collation has been standardized into the following order and information. Length in feet, black and white or colour, width of film, sound or silent, and followed in brackets by details of any other film material other than a negative or a positive print.

Section four of the entry takes the form of the location (or production) numbers for both the negative and positive, followed in brackets by the number of reels.

The fifth and final section of the entry is a summary of the contents of the film and 'literary notes', which are references to any reports, memoranda, periodical or book articles, which are relevant to the trial. If the film has a commentary it (and the commentator's name) is mentioned here (see example 5).

It will be seen that the entry bears a strong resemblance to the layout visualized by the Anglo-American Cataloguing Code. This has the double advantage of following a recognized pattern and of enabling any qualified librarian to catalogue R.A.E. films with a minimum period of familiarization with the layout of entries and the terminology of cinematography.

629.139.8 (204.2) Fairey IIIF, Seaplane

Trials of Hein Canvas Gear. Naval Air Dept. 14/16 Sept. 1932

1,500 ft b & w 35 mm. si (F.G.P. and Dupe Neg.)

Neg. 686 (3) Pos.119 (2)

Summary: Sequences show seaplane, a Fairey IIIF, taxying on to a Hein canvas mat towed behind a ship, H.M.S. *Argus*. Some shots from deck of towing ship (C.U.) some from accompanying ship (l.s.)

Tech. Memo No. 12345 by Z. Potter, applies

See 'Flight' 21.9.32, p. 244–245 and 'Aircraft

Engineering' 1936, p. 274–283.

EXAMPLE 5 A typical main entry—unit entry

UNIT ENTRY PRINCIPLE

The unit entry principle was adopted in order to save time referring from the indexes to the main sequence. To save time and labour the part of the card which is to be used as a heading is underlined and this is used as a filing guide. As a minimum of four cards is required for any one entry the cards are run off on a small rotary duplicator.

CATALOGUE AND INDEXES

The catalogue consists of a main sequence (classified) and nine indexes. These indexes are well used and have come into existence as a direct result of the frequency and type of requests made. Most queries could be answered from the main sequence, as indeed many are, but the indexes anticipate the form in which most questions are phrased and thus speed up the time taken to supply the required information.

The main sequence is in strict U.D.C. order, but is augmented by guide cards with subject headings to facilitate reference. Biographical entries are arranged at 92 alphabetically by name, this was preferred to a separate biographical index.

The following indexes contain full unit entries:

a. Aircraft Index

This is arranged by manufacturer and subdivided by individual aircraft names. Perhaps the most popular index, it allows the development of an aircraft to be seen at a glance, as entries within aircraft name are arranged chronologically.

Experience has shown that requests for stock shots of individual aircraft are often phrased in a different way. The requirements are usually for an aircraft doing a particular thing. Aircraft stock shots are therefore arranged by a notation developed for this purpose.

Persons who are not familiar with aircraft may only know the aircraft name and not that of the manufacturer. To aid this another index is maintained, but as this does not contain unit entries it will be dealt with later.

b. Missile Index
Similarly an index of missiles is maintained.

c. Departmental Index
The main division in this index is by the department for whom the film was produced, subdivided by date of production, and provides information quickly which would entail a great deal of time and effort to remove from the main sequence. It shows which departments make the most use of film, footage exposed for a department between any given dates, and the progress of trials.

d. Author Index
When a film has a sound commentary it is usual to make an entry under the commentator's name. Although he is not an author it was decided that rather than start another index they should be filed here.

Trials and tests conducted at or by the R.A.E. usually result in a report or memorandum, summarizing the work done and giving results, facts, and figures. Whenever a film has been made that covers a test or trial so reported it has been found useful to refer to the relevant report(s) on the entry—these are entered in the index under name of author, following Anglo-American rules.

e. Numerical Indexes
Two of these are in existence, one for the negative films and one for the positive varieties of material (i.e. duplicate negatives are filed with the negative). They are arranged strictly in numerical order by location/production number, and are therefore, with a few minor exceptions, in chronological order. These indexes serve a dual purpose; they enable the output of the Instrumentation Department in ciné film to be gauged, and they also enable film to be referred to by number only—effecting a saving of space and time in communications.

f. Title Index
This is an alphabetical index of the titles of composite and documentary films; both those produced by the R.A.E. and those produced by other sources, of which a considerable number are held by the R.A.E.

In addition three other indexes are used, but do not contain unit entries.

g. Subject Index
An alphabetical index using the chain indexing method of compilation.

h. Aircraft Index by individual name
This index is arranged alphabetically by individual aircraft name, referring from this to name of manufacturer. Each entry contains brief technical notes on the aircraft, including history and development, performance figures, specifications, description, and an illustration.

j. Edge Number Index
In numerical order by edge number referring directly to location number, no other details are given. This allows definite identification of any piece or roll of film exposed by the R.A.E.

PHYSICAL APPEARANCE OF THE CATALOGUE

The card catalogue is housed in an expandable wooden cabinet of unit construction and takes standard 5 in. × 3 in. catalogue cards. No hole is punched in the card; the consequent gain in card area is small but useful. The drawers are in units of six, each unit having a lock to safeguard security-classified material. All entries for films are filed in one sequence; to enable rapid identification different colours of cards are used.

CO-OPERATION

There is close co-operation with other film libraries, both for the lending and borrowing of stock material. Naturally the commercial film libraries expect payment for any shots used. This is usually in the form of a search fee and royalties on the footage used.

SELECTIONS FROM THE RECENT LITERATURE

Books and Pamphlets

*AMERICAN library annual and book trade almanac, 1959. ... N.Y., R.R. Bowker, 1958. vii, 311 pp., tables. $4.25.

AMERICAN SOCIETY FOR METALS, *and* SPECIAL LIBRARIES ASSOCIATION
ASM–SLA metallurgical literature classification. International (second) ed. Cleveland, A.S.M., 1958. [4], 74 pp. illus. $3.

ARMOUR RESEARCH FOUNDATION
Proceedings of the Fifth Annual Computer Applications Symposium. October 29–30, 1958. Chicago, the Foundation, 1959. ix, 153 pp., illus. $3.

BOAZ, MARTHA, *ed.*
Modern trends in documentation: proceedings of a symposium held at the University of Southern California, April, 1958. London ... N.Y., Pergamon Press, 1959. viii, 103 pp. 35*s.*

BÖRSENVEREIN DES DEUTSCHEN BUCHHANDELS
Bibliographie und Buchhandel: Festschrift zur Einweihung des Neubaus der Deutschen Bibliothek, Frankfurt am Main. Frankfurt am Main, Der Börsenverein, 1959. 242 pp., illus. DM 12.

BROWER, REUBEN A.
On translation. Cambridge, Massachusetts, Harvard U.P.; London, O.U.P., 1959. xi, 297 pp. $6.50 or 52*s.*

BURT, *Sir* CYRIL
A psychological study of typography . . . Cambridge, C.U.P., 1959. xix, 68 pp. 15*s.*

CARR, LAURENCE H. A., *and* WOOD, J. C.
Patents for engineers. London, Chapman and Hall, 1959. 107 pp. 18*s.*

DOSTERT, LÉON, *editor*
Research in machine translation: report of the Eighth Annual Round Table Meeting on Linguistics and Language Studies. Washington, Georgetown U.P., 1957. vii, 193 pp., tables. (Monograph series on languages and linguistics: no. 10.) $2.25.

DYSON, G. MALCOLM
A short guide to chemical literature. 2nd ed. London, Longmans, 1958. 157 pp. 15*s.*

*THE EUROPA year book, 1959. 1st ed. London, Europa Publications, 1959. xiii, 1156 pp., tables. 130*s.*

GREAT BRITAIN. Central Office of Information. *Central Film Library*
Films for industry: a catalogue of 16 mm. films for industrial users, including a film-strip section. 1959–60. London, the Library, 1959. 151 pp., illus. 2*s.* 6*d.*

GRILLO, ELMER V. *and* BERG, CHARLES J.
Work measurement in the office: a guide to office cost control. London, McGraw-Hill, 1959. ix, 186 pp. (NOMA series in Office Management.) $5.75.

HOPP, RALPH HARVEY
A study of the problem of complete documentation in science and technology. Ann Arbor, University Microfilms, 1959. ix, 120 pp. (Thesis submitted . . . University of Illinois, 1956.)

INTERNATIONAL BUSINESS MACHINES CORPORATION
Information retrieval. N.Y., the Corporation, [1959]. 15 pp., illus., diagrs. gr.

*INTERNATIONAL COMMITTEE FOR SOCIAL SCIENCES DOCUMENTATION, *and* INTERNATIONAL POLITICAL SCIENCE ASSOCIATION
International bibliography of political science. Vol. 6: works published in 1957; editor, Jean Meynaud. Paris, Unesco, 1959. 350 pp. (Documentation in the Social Sciences.) 30*s.*

INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY
Nomenclature of inorganic chemistry . . . London, Butterworth, 1959. ix, 93 pp. 15*s.*

JACKSON, WILLIAM VERNON
Studies in library resources. Champaign, Illinois, Illini Union Bookstore, 1958. vii, 62 pp. $1.75.

JENKINS, FRANCES BRIGGS
Science reference sources: a selected list of titles for use in Library Science 412 at the University of Illinois Library School. 2nd ed. Champaign, Illinois, Illini Union Bookstore, 1958. [3], 93 pp. $1.50.

MAIZELL, ROBERT E.
Information gathering patterns and creativity: a study of research chemists in an industrial research laboratory. Ann Arbor, University Microfilms, 1959. vii, 141 pp. (Thesis submitted . . . in the Faculty of Library Service, Columbia University, 1957.)

MOVŠOVIČ, M. I.
Technical and vocational education in the U.S.S.R.: a bibliographical survey. Paris, Unesco, 1959. 53 pp. (Education studies and documents no. 30.) 5*s.*

PLUMBE, W. J.
Storage and preservation of books, periodicals and newspaper in tropical climates: a select bibliography. Paris, Unesco, 1958. 9 pp.

PRESENTATION OF TECHNICAL INFORMATION GROUP
Training technical writers: a symposium by Major H.R. Hockley, F.B. Roberts, R. Wiltshire. London, the Group, [1959]. 9 pp. gr.

RANGANATHAN, S. R.
Library administration. 2nd ed. Bombay, Asia Publishing House, 1959. 678 pp. Rs. 24.00 or 44*s.*

UNION OF INTERNATIONAL ORGANIZATIONS
Directory of periodicals published by international organizations. 2nd ed. Brussels, the Association, 1958. x, 241 pp. 21*s.*

RECENT LITERATURE

WHEELER, MARTHA THORNE
Indexing: principles, rules and examples. 5th ed. Albany, N.Y. State Library, 1957. 78 pp. (University of the State of New York. Bulletin, no. 1445.)

WOLSELEY, ROLAND E.
Critical writing for the journalist. Philadelphia, Chilton Company, 1959. x, 207 pp., illus. $5.

*WÜSTER, DR. EUGEN
Bibliography of monolingual scientific and technical glossaries. Vol. 2: miscellaneous sources. Paris, Unesco, 1959. 146 pp. 12*s*. 6*d*.

ZISCHKA, GERT A.
Index lexicorum: Bibliographie der lexikalischen Nachschlagewerke. N.Y., London, Hafner Publishing Co., 1959. xliii, 290 pp. $13.

Articles and Papers

ADOPTION of new conventions on the exchange of publications. *Unesco Bulletin for Libraries,* vol. 13, no. 2–3, February–March 1959, pp. 30–35.

ASSOCIATIONS américaines ayant trait à la gestion des entreprises. *La Documentation en France,* vol. 27, no. 1, January–February 1959, 4 pp.

BALLARD, B. G.
Organization of scientific activities in Canada. *Science,* vol. 129, no. 3351, 20th March 1959, pp. 754–759.

BALLOU, HUBBARD W.
Developments in copying methods—1958. *Library Resources and Technical Services.* vol. 3, no. 2, Spring 1959, pp. 86–97.

BARNES, P. G.
A computer in a commercial organization. *Data Processing,* vol. 1, no. 2, April–June 1959, pp. 69–73.

BARROW, W. J., *and* SPROULL, REAVIS, C.
Permanence in book papers: investigation of deterioration in modern papers suggests a practical basis for remedy. *Science,* vol. 129, no. 3356, 24 April 1959, pp. 1075–1084.

BETTS, ROBERT E.
The resources of the technical libraries of Western Europe. *American Documentation,* vol. 10, no. 1, January 1959, pp. 64–69.

BISHOP, DAVID
Science thesis control in Europe and America. *American Documentation,* vol. 10, no. 1, January 1959, pp. 51–58.

BROWN, BARBARA M.
Some notes on the Decimal Classification, the Universal Decimal Classification, and the Colon Classification. *Australian Library Journal,* vol. 7, no. 4, October 1958, pp. 134–138.

COHN, GUNTHER
Technical data on border-punched cards. *American Documentation,* vol. 10, no. 2, April 1959, pp. 116–121.

DEWEY, HARRY
Punched card catalogs: theory and technique. *American Documentation,* vol. 10, no. 1, January 1959, pp. 36–50.

ENGLEFIELD, D. J. T.
Education in British government publications. *Education Libraries Bulletin,* no. 4, Spring 1959, pp. 18–20.

HAAKE, ROLF
Die Kostengestaltung einer mittleren Dokumentationsstelle. *Dokumentation,* vol. 6, no. 1, February 1959, pp. 19–22.

HALLAM, BERTHA B.
Medical reference sources. *Bulletin of the Medical Library Association,* vol. 47, no. 2, April 1959, pp. 132–140.

KENT, ALLEN, *and* IBERALL, A. S.
Soviet documentation: a trip report. *American Documentation,* vol. 10, no. 1, January 1959, pp. 1–19.

KOFNOVEC, LADISLAV
Mechanisierung in der Dokumentation. *Dokumentation,* vol. 6, no. 1, February 1959, pp. 22–24.

LEWINSON, PAUL
The preservation of government publications. *The American Archivist,* vol. 22, no. 2, April 1959, pp. 181–188.

MCCOLVIN, E. R.
The technical college library—some suggested standards. *Technical Education,* vol. 1, no. 4, May 1959, pp. 26–28.

MAJOR, ROBERT
Organization of scientific activities in Norway. *Science,* vol. 129, no. 3350, 13th March 1959, pp. 694–700.

MELCHER, DANIEL
Uses of microprint in bibliography. *Library Journal,* vol. 84, no. 9, 1 May 1959, pp. 1414–1416.

PIETSCH, E.
Next steps in documentation following the International Conference on Scientific Information. *Revue de la Documentation,* vol. 26, no. 1, February 1959, pp. 13–14.

RAPID production of commercial documents: printing data by styli at 300 lines a minute. *Data Processing,* vol. 1, no. 2, April–June 1959, pp. 120–127.

REICHHARDT, GÜNTHER
Die Oekonomie der Uebersetzung. *Nachrichten für Dokumentation,* vol. 10, no. 1, March 1959, pp. 14–20.

SHEWCROFT, JOYCE
Some legal aspects of special library work: copyright. *The Australian Library Journal,* vol. 7, no. 3, July 1958, pp. 57–64.

SIMON, BRADLEY A.
Tailor-made charging system. *Library Journal,* vol. 84, no. 9, 1 May 1959, pp. 1392–1394.

SZEBENYI-SIGMOND, JUDITH
Libraries and information services behind the iron curtain. *American Documentation,* vol. 10, no. 2, April 1959, pp. 108–115.

TAINE, SEYMOUR I.
New program for indexing at the National Library of Medicine. *Bulletin of the Medical Library Association,* vol. 47, no. 2, April 1959, pp. 117–123.

TEACH students how to read and translate specialised literature. (A synopsis of articles from Vestnik vysshei shkoly, 1958 (11) pp. 65–72.) *LLU Translations Bulletin,* April 1959, pp. 3–15.

VICKERY, B. C.
Dewey 16th and the special library. *The Library World,* vol. 60, no. 707, May 1959, pp. 230–2.

WEBER, E.
Beispiel für die Anlage einer Literaturkartei. *Dokumentation in Medizin und Biologie,* vol. 3, no. 1, January 1959, pp. 16–19.

WEINSTEIN, SHIRLEY JANE, *and* DROZDA, RAYMOND J.
Adaptation of co-ordinate indexing system to a general literature and patent file: machine posting. *American Documentation,* vol. 10, no. 2, April 1959, pp. 122–129.

All the above items may be borrowed from Aslib Library, except those marked with an asterisk. Most of these are available for consultation in the library, apart from a few for which locations in other libraries can be given.

MEMBERS' ADVERTISEMENTS

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ASLIB PROCEEDINGS

incorporating Aslib Information

Volume 11 August & September 1959 Numbers 8 & 9

ASLIB CALENDAR

OCTOBER

MONDAY 5th – WEDNESDAY 7th. Annual Conference at the Grand Hotel, Scarborough.

MONDAY 19th. Engineering Group visit to Cadby Hall, London.

WEDNESDAY 28th. Film Production Librarians Group meeting. See paragraph below.

NOVEMBER

WEDNESDAY 18th. Engineering Group visit to Whitefriars Glassworks.

WEDNESDAY 25th. Film Production Librarians Group meeting. See paragraph below.

1960

APRIL

FRIDAY 8th – SUNDAY 10th. Aeronautical Group Conference at Cranfield.

Aslib Periodicals

As a result of the dispute in the printing industry in June and July it was impracticable to produce a separate August issue of *Aslib Proceedings*. A duplicated news sheet was, however, distributed to members and subscribers and the news items appearing in it are repeated in this combined August–September issue.

Apology is offered for errors in the July issues of *Aslib Proceedings* and *Aslib Book List*. These publications were produced under adverse circumstances during the printing dispute and were completed largely through the combined efforts of apprentices, managing directors, and other senior staff of the two printing houses concerned, to whom Aslib is grateful.

There was no issue of *Aslib Book List* in August, but a combined August–September one has been distributed to subscribers. The September issue of *The Journal of Documentation* (vol. 15, no. 3) will not be available until October.

Exhibition of Photocopying Equipment

An exhibition of photocopying equipment will be held at Aslib during the period 1st September to 30th November 1959. It is anticipated that six machines will be available to members for inspection and trial, these machines having been selected in the first instance as being particularly suited to the needs of special libraries. The exhibition will be open from Monday to Friday each week between 11.30 a.m. and 1 p.m. and between 2.30 and 5.30 p.m. Members who wish to come at any other time are requested to make an appointment beforehand. It is hoped that this exhibition will be the first of a series designed to give members an opportunity to examine and compare items of equipment used in special library work.

Aslib Cranfield Research Project

The investigation into the comparative efficiency of indexing systems being carried out by the Aslib Cranfield Research Project, with the aid of a grant from the National Science Foundation, has now reached a stage at which the co-operation of interested organizations or individuals would be welcomed. The indexing, under controlled conditions, of 18,000 aeronautical documents by four different systems—UDC, alphabetical subject catalogue, faceted classification, and Uniterm—is expected to be complete by March 1960.

Assistance of two kinds is now requested. Firstly, it would be helpful to have a number of documents indexed by persons other than the project indexers: such indexing would supply a check on the standard of indexing of the project staff, and entries would be included in the appropriate catalogue. Secondly, a large number of questions is required for the test programme to which the four indexing systems will be subjected. A leaflet giving a brief outline of the project and further details of the assistance required and how it would be used, is available from C. W. Cleverdon, Director, Aslib Cranfield Research Project, The College of Aeronautics, Cranfield, Bletchley, Bucks.

Film Production Librarians Group

Three evening meetings have been arranged to take place on Wednesdays at Shellmex House. At the first of these, at 6.45 p.m. on 16th September, Mr John Southgate of Associated Rediffusion will speak on V.T.R.: a method of transcribing and transmitting television programmes on microfilm. On 28th October Mr Norman McQueen of Science Films will describe special camera techniques, including time-lapse, slow motion, photomicrography; his talk will be illustrated with film. On 25th November an account of the growth of the Rank Organization will be given by Mr Jack Morrison.

The *Directory of Film Libraries* prepared by the Group is expected to be available in September. Inquiries should be addressed to the Group Secretary, Miss P. Dowling, c/o Shell Film Unit, Norman House, Strand, London, W.C.2.

Furniture Group

A meeting will be held at 6.30 for 7 p.m. on Thursday 5th November at the Royal Society of Arts, 8 John Adam Street, Adelphi, London, W.C.2. Miss

Eirlys Roberts, editor of *Which?* and Miss Celia Clough of the staff of Consumer Advisory Council will speak on 'consumer advice'. All members wishing to attend are asked to advise the Group Secretary, Mrs I. Wagner, 19 Museum Chambers, Bury Place, London, W.C.1.

The Mellor Library

The new library of the British Ceramic Research Association, to be known as the Mellor Library, was opened on 16th June at the Association's laboratories at Stoke-on-Trent. It is named after the late Dr J. W. Mellor, C.B.E., F.R.S., author of the sixteen-volume *Comprehensive treatise on inorganic and theoretical chemistry,* a pioneer of ceramic research, and first Director of the British Refractories Research Association which was the forerunner of the British Ceramic Research Association. The new library houses the Association's complete collection of books, periodicals, and pamphlets on the science and technology of ceramics.

Courses for Special Librarians and Information Officers

The North-Western Polytechnic has announced a number of courses of interest to special librarians and to information officers in industrial and commercial firms, to be held during the 1959–60 session. Titles of series of evening courses are: 'The use of business information', 'Sources of information in the mathematical and physical sciences', 'Literature and librarianship of the fine arts (excluding music)', 'Dissemination of information', and 'Hospital library work'. An afternoon course on 'The library and its community: studies in public relations' is also included. Further information on all these courses can be obtained from P. H. Sewell, F.L.A., Head of the Department of Librarianship, North-Western Polytechnic, London, N.W.5. Telephone: Gulliver 1154. Enrolments will take place from 6 to 8.30 p.m. on 21st, 22nd, and 23rd September.

Liverpool Courses for Special Librarians

The College of Commerce, City of Liverpool Education Committee, have announced plans for a course of evening lectures on 'Cataloguing, classification, and indexing for special librarians', to be given by Mr W. A. Maltby, F.L.A., Senior Assistant Librarian, Liverpool Commercial Library. The course will be held on Fridays from 7 to 9 p.m. commencing 25th September.

A one-day school on 'Patents for information officers and special librarians' will be held on Wednesday 23rd March under the instruction of Mr R. Armstrong of the Technical Information Company, Liverpool.

Further details of both these courses will be issued by the College of Commerce, City of Liverpool Education Committee, Tithebarn Street, Liverpool 2.

Courses in Scientific Russian

Two intensive courses in scientific Russian are announced by Ealing Technical College to take place on Mondays and Thursdays from 21st September 1959 to 1st July 1960. Course 1, for beginners, will be an afternoon course, from 2.30

to 4.30. Course 2, for those with some knowledge of Russian, will be the second in the series started last September and will take place in the mornings from 9 to 11. The fee for each course is £4 10*s*. Application forms are available from the Head of Department of General Studies, Ealing Technical College, St Mary's Road, Ealing, London, W.5.

Course in Technical Report Writing

The Department of Management Studies, The Polytechnic, Regent Street, announces a part-time course in 'Writing the technical report' to be held in London from 9.30 a.m. to 12.30 p.m. on Fridays for six weeks commencing Friday 16th October. The course will consist of short lectures, discussions, and exercises, designed to give executives a practical training in writing technical reports and in presenting technical information effectively. The fee (for students residing in the Administrative County of London) is 31*s*. Further details and application forms can be obtained from the Registrar, St Katherine's House, 194 Albany Street, London, N.W.1.

Quicker Reading Courses

The British Institute of Management are organizing a number of five-hour courses in quicker reading. The last of these was held on 26th August from 2.30 to 5 p.m. and 27th August from 9.30 a.m. to noon, at Management House, Fetter Lane, London, E.C.4. Further courses will be held in January 1960. The fee is £6 and application forms may be obtained from the Conference Secretary at Management House.

Survey of Federal Libraries

The Council on Library Resources has announced a grant of $72,965 to the Brookings Institution for a comprehensive survey of Federal departmental and agency library facilities. Work on the survey is expected to start in October this year and it is hoped that the results will be published in book form early in 1961. The object of the survey is to provide a factual basis for future planning and co-ordination of Federal library activities. It will be directed by Mr Charles Thomson of the Brookings Institution, with Mr Luther Evans, former Director General of Unesco, as senior consultant.

American Legal Study of Photocopying

The National Science Foundation has announced, in *Science Information News*, vol. 1, no. 3, that the services of a New York law firm have been engaged by the Joint Libraries Committee on Fair Use in Photocopying to make a study of the legal problems of photocopying in libraries. A pilot survey has already been conducted by the Committee to discover facts relating to the legal aspects of the subject.

Abstracting Federation

The establishment in Washington of a national office for scientific abstracting and indexing services is announced. The office will be the headquarters of the

National Federation of Science Abstracting and Indexing Services, which was set up last year to co-ordinate the work of various existing services, seek methods of improving them, and encourage the development of such services for subject fields not yet covered.

Russian National Technical Libraries

It is reported that a State public scientific and technical library of the USSR was established in Moscow in October 1958. It is attached to the State scientific and technical committees of the USSR Council of Ministers, and is intended to guide and co-ordinate the work of technical research libraries in various industries, and to become the central repository of all translations into Russian of scientific and technical works. A state public scientific and technical library has been established also in Novosibirisk, attached to the Siberian Department of the Academy of Sciences of the USSR.

Symposium on Machine Translation

A national symposium on machine translation is being planned to take place from 2nd to 5th February 1960 at the University of California at Los Angeles. It is intended to cover an appraisal of the state of progress in machine translation, methods being exploited, and a discussion of problems impeding progress. The symposium is sponsored by the University of California, Berkeley, the University of California at Los Angeles, the University of Southern California, and the University of Washington. Further details will be announced in *Science Information News,* published by the National Science Foundation, Washington 25, D.C., U.S.A.

American Chemical Society Meeting

The 136th meeting of the American Chemical Society will be held in Atlantic City from 13th to 18th September. Subjects for discussion by the Chemical Literature Division will be 'Technical information services for industry: case histories and informal discussions' and 'Technical writing for specialized purposes'. Papers presented under the first heading will describe information services at Merck, Sharp & Dohme Research Laboratories, the M.W.Kelogg information retrieval system, and the information centre of Applied Science Corporation of Princeton. The technical writing symposium will cover such subjects as organic and polymer chemistry, chemical economics, and medical research, as well as drafting of chemical patent specifications. Papers describing special indexing projects and descriptive nomenclature will also be included in the programme.

International Journal of Abstracts, Statistical theory and method

A new quarterly abstract journal, bearing the above title, will shortly be published by Oliver and Boyd for the International Statistical Institute. The first issue, dated July 1959, has been delayed by the dispute in the printing industry. The object of the new journal is to give complete coverage of papers in the field of statistical theory and new contributions to statistical method, published since October 1958. Approximately one thousand abstracts of 400 to 500 words will be published each year in the English language. *International Journal of Abstracts, Statistical theory and method* may be ordered from Oliver & Boyd Ltd, Tweeddale Court, Edinburgh 1, price 30*s*. or $4.50 per copy: annual subscription £5 or $16.

Microcard Journal

Members working in other fields may not yet have heard of the experiment now being carried out in the United States on *Wildlife Disease,* the official publication of the Wildlife Disease Association. This journal is published quarterly on 5 in. by 3 in. microcards. Each card contains forty-seven pages of microtext, with the author, title, and issue number in full-size type. A leaflet containing abstracts accompanies each issue. A portable and inexpensive hand viewer will also be available to new members of the Association at a cost which is expected to be less than $10. This experiment is being conducted by the American Institute of Biological Sciences with the assistance of funds from the Council on Library Resources. Subscription to *Wildlife Disease,* together with an irregularly-issued *Newsletter,* is included in membership of the Wildlife Disease Association, American Institute of Biological Sciences, 2000 P Street, N.W., Washington 6, D.C., U.S.A., $1 yearly.

Library Research in Progress

The Library of Congress announces a new information bulletin, *Library research in progress,* which will list research projects (both individual and collective) in progress in all fields of library science and service. The purpose of the bulletin is to supply current information on library research, assisting the profession to avoid duplication of effort. Copies of *Library research in progress* will be available, free of charge, from the Library Services Branch, Office of Education, Department of Health, Education, and Welfare, Washington 25, D.C., U.S.A.

Petroleum Congress Papers

The proceedings of the Fifth World Petroleum Congress, held in New York in June, will be published in the autumn in eleven volumes, at $12.50 each volume plus 50*c*. postage, or $112.50 inclusive of postage for the full set. Preprints of individual papers are still available at 25*c*. per copy. Orders should be placed as soon as possible with the General Secretary, Fifth World Petroleum Congress Inc., 527 Madison Avenue, New York 22, N.Y., U.S.A.

Punched Card Data Processing

Machine accounting and data processing is now issued under the title *Punched card data processing* and is to be published monthly instead of appearing in two-monthly issues. The annual subscription rates are unchanged at $7.50 in the United States and Canada, $8.50 elsewhere. *Punched card data processing* is obtainable from the publishers: Gille Associates Inc., 956 Maccabees Building, Detroit 2, Michigan, U.S.A.

PROBLEMS IN TECHNICAL WRITING

J. W. GODFREY, F.R.S.A.
Formerly Editor, Technical Instructions, BBC

Conference on the Presentation and Interpretation of Technical Information, London, 8th May 1959

INTRODUCTION

WHEN this conference was first discussed, it was agreed, I think, that no fundamental decisions for action should be taken at its close, but I do suggest that it might be a good idea if there were a theme. I suggest that a good theme is the word 'accuracy'.

On the question of accuracy, a recent industrial journal, commenting on the efforts being made to improve technical writing, led one to think that the best thing to be done was for technical writers to be left alone to work out their own salvation. Yet here is an example that I came across recently. It is from a house journal, so do not attach too much importance to it. But I should like to read it to you as an example of what occurs in technical writing, not only in this country, I suppose, but all over the world. This referred to a new train that had been inaugurated by British Railways to run from Manchester to London. Mark the direction!

> 'Whether it is a coincidence or not we don't know, but no sooner have we moved our administrative staff out to Cheadle Heath than British Railways announce a non-stop first-class only diesel-electric service between there and St. Pancras.'

We visualise the train speeding away from Manchester to St. Pancras but listen to the next sentence:

> 'After leaving Cheadle Heath, the train goes on to Manchester Central'.

I am afraid all of us come across that sort of thing every day and I submit that it is a justification for this conference.

There are many channels through which technical information is conveyed from one group of persons to another, but there can be no doubt that the written or printed word is the most effective means of spreading knowledge to the ever-widening circle of seekers after truth. The phrase 'seekers after truth' is not used here in its academic sense. A patient who visits a surgery does so to find out what is wrong with him; the doctor *writes* a prescription which even if the patient cannot read it, conveys to the chemist information that is calculated to effect a remedy. To apply another similé, the car manufacturer provides an instruction book with every vehicle he produces; it is not always *his* fault if the user does not understand it.

But in the present age, the greatest problem is to ensure that the rapid advance in science and technology should not outpace its practical application because of inadequate means of communication. Put in simpler terms, it is of little use inventing new devices, unless there is full information on how to design, construct and use them; it is still more important that such information should be fully available to all who need it.

In a recent issue of *Nature*[1] it was made clear that both in Russia and in America something is being done about this problem at Government level, at least as far as advanced science is concerned. What the British are doing was not quite so apparent although the work of Aslib was given a polite mention. Some of us may feel that progress in this direction could be achieved by unification of purpose and action in the various associations concerned with technical information; no doubt this will be discussed at this conference.

It appears that one of the difficulties facing the Americans is the need for quicker and cheaper methods of print reproduction. It is for this reason that no apology is made for making some reference in this paper to reproduction and to distribution methods.

CONVEYING TECHNICAL INFORMATION FROM SOURCE TO DESTINATION

Problems in conveying technical information

Perhaps I may be forgiven for using the terms Source and Destination since they are commonplace in the world of broadcasting with which I have been associated for thirty years. But even these simple terms have different interpretations. To the programme official in a broadcasting service they imply the performer and the listener; to the engineer the source is the microphone and the destination is the radio transmitter. But there is no accounting for such terminology. In a recent staff instruction this sentence appeared, 'After a short interval, "Oranges and Lemons" will be distributed'. Here the source was a gramophone record and the destination a group of transmitters.

For the purpose of this paper, source refers to the givers of information and destination to those who receive it.

One of the problems in technical writing is that in conveying information from source to destination, accuracy should not be sacrificed to simplification. That there must be simplification no one would deny, for it is sensible to assume that the knowledge-level curve between source and destination slopes downward.

A further problem is that when technical information is conveyed through an intermediary, sometimes called an author and sometimes a writer, the intermediary is apt to forget his primary function and set himself up to be the source, often with regrettable results. Newspaper correspondents have been known to offend in this respect, and a recent broadcaster described a lamp used in a studio demonstration as one having a power of 5,000 kilowatts.

Sources and destinations of technical information

Before commenting on further problems in technical writing it may be worthwhile to consider for a moment some of the sources and destinations of technical information.

Among the sources may be included research workers, designers, manufacturers and existing written or printed information. It is assumed that scientists have no objection to being classified as research workers; the converse may not always hold good; a laboratory technician may be engaged in research work, but he is not necessarily a scientist.

Administrators have been excluded from the list because however qualified they may be in a scientific or technical sense, their function normally is to direct the work of others and not to originate technical information.

Destinations comprise other research workers, designers or manufacturers, installation engineers, maintenance personnel, operating personnel, and the general public. Here however we may not exclude directors and administrators for they have to relate scientific possibilities to economic development.

Differentials in knowledge between source and destination

Professor Kapp in his excellent book *The presentation of technical information*[2] stresses how important it is for the technical writer to study the reader. Other authors[3] having the same idea in mind have referred to *The reader over your shoulder*.

This understanding of the reader's power of assimilation is the hardest lesson a technical writer has to learn, particularly when there is a wide gap between knowledge at the source and knowledge at the destination. It is the reason why scientific workers are accused, often unfairly, of being incapable of intelligent writing. The truth is that, in general, research reports are usually written in an admirable style for other research workers; they are not necessarily intended to bridge the knowledge gap between the writers and the public; nor between the writers and potential users of the information.

To some extent, this same argument applies to designers, though it must be admitted design reports are often lacking in style and presentation. It would seem that the nearer a project gets to the production line, the greater is the urgency for written information. Therefore, there is less time to write it, presentation suffers and, alas, so sometimes does accuracy. It is for these reasons that industry is now employing on an increasing scale technical writers or technical authors in a professional capacity, and some of their problems will be discussed in a subsequent paper.

THE ART OF TECHNICAL WRITING

The word art is used here in preference to technique because art means skill and technique means artistic expression; skill is essential but artistic expression is not always desirable in technical writing. There are exceptions as in this example:

> 'When we as individuals survey a landscape on a summer evening, there are quite a lot of things about it which affect us. We look at it with two eyes and become aware of colour, of aerial perspective, of depth in the hazy distance, of form, of light, of shade. We smell the sweetness of the meadows; we hear the lazy drone of insect life, the trill of birds and all the harmony of sounds that so emphasize the apparent quiet of a summer evening'.

This passage without its context can hardly be described as functional English but it appeared in an instruction on the Elements of Pictorial Composition written for the benefit of television lighting engineers.[4] Its purpose was to create the right atmosphere in the mind of the reader before practical aspects of the subject were approached.

Let us see now how the same writer sets about explaining the technicalities of his subject:

> 'If the cathedral is kept in dead sharp focus all down the nave from porch to chancel, no conception of its stately depth and grandeur can be conveyed to the viewer. Therefore lighting levels should be kept down rather than up, and thus lenses will be forced open until differential focusing is automatically imposed. The lower the lighting level the more touchy lighting angles become and the placing of sources must be correspondingly more precise. This implies a very confident approach on the part of the lighting supervisor—an approach that can only be developed by a sympathy with the subject and a feeling for the medium'.

It is clear that this author's use of a literary style in his introduction was aimed quite deliberately at creating a mood in the mind of his reader conducive to the reception of subsequent information. In my view, this is or should be the main purpose of an introduction to any technical writing.

Here is another example, but in this there is a marked difference between the style of the introduction and that of the text which follows.

> 'These men, who with crude tools cut out word symbols in moist clay or carved with hammer and chisel, or with plume pen and papyrus, chronicled the doings of their age, became the historians of the past and blazed the trail, of which the present widespread method of communication is but the inevitable result.'

But in the same work,[5] this technical writing appears:

> 'The facsimilé process normally consists of a means of transmitting a visual image from a transmitter to a receiver, which may be widely separated from each other or contained on a common shaft within the same machine. It can produce one or more opaque copies or a printing master from originals which may consist of written, printed or drawn matter, photographs or other materials'.

If the writer of this paragraph had taken the precaution of looking up the word facsimilé in reliable dictionaries he would not have referred to the process as 'a means of transmitting a visual image', which is the function of television. Facsimilé reproduction applies to still pictures, whereas visual images may very well be moving objects. The point to be made here is the paramount necessity for the use of authoritative reference books in all branches of technical writing. It is not a problem but merely common sense, and is particularly important when the reader is assumed to know nothing of the subject. A technical writer should never accept his own definitions until he has satisfied himself that they are correctly applied.

So much has been published about style in technical writing that it would seem unnecessary to expand the subject in this paper. In spite of all that has been written however, most technical writers find it difficult to curb their use of hackneyed words and phrases. Among the most common are 'due to the fact that' instead of 'because'; 'required' for 'wanted'; 'in the case of' for 'with'; 'in order that' or 'in order to' for 'so that' or 'to'.

These simple examples are given because they are so often to be found but it should not be assumed that they are always out of place. The most that can be said is that they are usually superfluous and incredibly boring. The alternatives suggested may not always fit, but the principle is clear.

Perhaps the worst fault of most writers is bad syntax and only long experience can correct it. A common form of poor syntax is to flout the simple rule of putting the subject at the beginning and not at the end of a sentence. Here is a typical example: 'Also provided are a feed meter and selector switch and a set of jacks and a pair of terminals for general utility'. The problem here is that the subject contains many items, but in adopting this style, the writer failed to show the relationship of the items. The sentence was reconstructed as follows: 'A feed meter with an associated selector switch is provided; there is also a set of three jacks, with a pair of terminals, for miscellaneous testing or programme routeing'. This example is worth close study for in its first form it is truly representative of the style adopted by many technical writers. The phrase 'general utility' is worth comment; it is as useless as etcetera, telling the reader nothing.

Another frequent fault is the mishandling of the word *both*. 'The doctor should be asked to forward both forms and his account to the manager.' There were more than two forms. This is the problem of emphasis. If the correct interpretation of a sentence depends upon the right emphasis on a certain word, the sentence will almost certainly be ambiguous.

The negative sentence also often causes trouble. 'Mechanical coupling is not shown on the diagram for clarity.' If this sentence were necessary, which is exceedingly doubtful, it could have been worded, 'To make the diagram clear, mechanical coupling is omitted', or to follow a previously mentioned rule, 'Mechanical coupling is omitted to make the diagram clear'.

This brief survey of the art of writing touches only the fringe of the problems, but there are three essentials which may be repeated with advantage. First the technical writer must know his subject; secondly, he must be capable of assessing the reader's knowledge so that his treatment is neither above nor below the reader's understanding; thirdly, he must develop a style that is accurate in fact and logical in sequence, that is free from superfluities, and that is as pleasant to read as well-chosen words can make it. Having become proficient in all these, the technical writer may be sure that no one will read his work unless he has to; therein lies the measure of the writer's responsibility.

PROBLEMS IN ILLUSTRATING

In a paper of this length and character it is impossible to do justice to the problems presented by illustrating the text of technical writing. Mention can only be made of those that are common in every branch of the art. The problem often arises as to whether photographs or drawings provide the best solution, and there is no clear-cut answer. Photographs of machinery take less time to prepare than line drawings do, but are more costly to reproduce. If photographs are used they must be functional rather than artistic which means that illustration of essential parts is more important than picture composition. Some writers like to have photographs of an object from every conceivable angle, a practice that is wasteful in time and cost and beset with layout problems in the production stage of the writing. A good compromise is a single comprehensive photograph, supplemented by line drawings of detail. The drawings can sometimes be traced on the photograph itself, and the photograph background bleached out in a chemical solution, leaving only the traced outlines.

Someone has said that one illustration can be more explanatory than a thousand words, a statement that must be accepted with considerable reserve, for a writer working on this principle recently produced fifty photographs of a technical device no bigger than a schoolboy's satchel.

Without going into details it can be said with safety that illustrating must be carefully planned during the preparation of the first draft and must be related to production costs.

The choice between charts and tables often presents a problem. All that can be said here is that charts or graphs adequately illustrate trends but involve skilled drawing effort, whereas tables give precise information and can be typed or printed without difficulty. In making his choice, the writer should consider which will serve his reader best.

CHECKING THE DRAFT WITH THE SOURCE

Any technical writer who submits his first draft for publication in any form deserves the criticism and disappointment that will almost certainly ensue. Such action can be likened to a designer who puts a prototype on the market before his product has been submitted to adequate and exhaustive trial.

The obvious way to ensure technical accuracy is for the writer to send his first draft, complete with illustrations, to someone competent to check it. In industrial organizations this usually means the designer, and for instructional manuals there can be no better authority. The problem that faces the writer here is that designers and other specialists can always find a dozen legitimate reasons for delaying their comments and, unless strong pressure is brought to bear on them, the draft is likely to be filed in the pending tray indefinitely. A far better policy is for the writer to make a personal appointment with the specialist and get the job of checking done by discussion and argument.

Another serious problem in the checking stage is lack of tolerance on the part of the specialist. He may condemn a whole draft if two or three errors appear on the first page. It is for this reason that the status of a technical writer should not be too far below that of the specialist. Even specialists are sometimes wrong and it is essential that, by experience and by status, the writer should be strong enough to defend his statements when he knows them to be right.

When technical writing is based on the work of other authors it is imperative that, in matters of technical detail, such authors should be quoted accurately. One of the greatest dangers is the paraphrasing of authoritative documents, articles or books. Much writing effort would be saved if technical writers realized that there is more risk in offending the Copyright Act by paraphasing than by quoting other authors *verbatim,* always provided that permission to do this is obtained. Such permission is rarely if ever refused.

PREPARING THE FINAL DRAFT

The final draft should be prepared and presented in such a way that those who have to reproduce it, whether copy typists or printers, can do so without referring back to the writer. Details needing attention include checking terminology, abbreviations, and symbols against appropriate and accepted standards: checking all headings and captions for illustrations; checking that all mathematical equations are clearly displayed. The list is long and formidable, but a 'check list' for manuscript can be found elsewhere.[6]

It is impossible to over-emphasize that mistakes appearing in the final draft have to be corrected on the printer's proofs; this is costly; it is also irritating and can nearly always be avoided.

In presenting a final draft, the writer should visualize its appearance in its printed form. Title and contents pages should be prepared in the layout style desired, and a full list of captions to illustrations should be arranged in proper order. These steps are particularly necessary if the work is to be printed in letterpress; otherwise delays will occur in the proof stages.

REPRODUCTION AND DISTRIBUTION

It would be out of keeping with the objects of this conference to discuss in detail the various methods of reproducing the technical writer's work, particularly as two books[5], [6], have been published recently which together contain all the information on the subject that the writer is likely to want.

The choice of methods however is of great importance to presentation and cost. For technical journals and books, there would seem to be no alternative to letterpress.

This presents no problem to either writer or publisher, but economic selling prices limit readership and it may well be that the use of cheaper forms of reproduction, such as the Vari-Typer used in conjunction with offset lithographic printing, may have to be extended. At its best, this method cannot claim parity in appearance with letterpress, but it can reproduce highly mathematical reports satisfactorily in less time and at much lower cost.

Experience leads me to believe that the distribution of technical information is regrettably inadequate. It is the custom for industrial concerns and public organizations to circulate a limited number of useful journals among their staff, but there are never enough to reach the mass of junior staff amongst whom are to be found potential engineers and scientists.

There can be no doubt that, in this country, Aslib is doing much to expand the distribution of scientific knowledge, but there is yet much to be done before students entering industry from universities or technical schools are adequately supplied with essential information, or at least with means for finding it. Perhaps the simplest way of doing this would be to encourage publication of appropriate abstracts in house journals or staff magazines. Those responsible for compiling abstracts could profitably co-operate in such a venture. They are the index sources; the destinations are many but not unknown. This is a problem that is vital to the technical writer, to the advancement of scientific knowledge, and to industrial progress alike. It is not beyond solution provided there is understanding, co-operation and goodwill.

Acknowledgement

In conclusion I should like to thank Mr R. T. B. Wynn, Chief Engineer of the BBC for permission to read and publish this paper, and for the interest he has always taken in the art of presenting technical information.

REFERENCES

1. *Nature,* vol. 183, no. 4655, Jan. 17, 1959, pp. 135, 147.
2. R. O. KAPP. *The presentation of technical information.* London, Constable & Co., 1948.
3. R. GRAVES *and* A. HODGE. *The reader over your shoulder.* London, Jonathan Cape, 1947.
4. BBC Engineering Training Supplement, *Lighting for television outside broadcasts.*
5. H. R. VERRY. *Document copying and reproduction processes.* London, Fountain Press, 1958.
6. J. W. GODFREY *and* G. PARR. *The technical writer.* London, Chapman & Hall, 1959.

TECHNICAL EDITING

A. B. ROBERTSON

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Conference on the Presentation and Interpretation of Technical Information, London, 8th May 1959

THERE is only one way of finding out who reads a particular periodical. The readership survey has become the means of sampling the readership of a journal and confirming or modifying editorial opinion regarding the level and status of its readers. With specialized technical periodicals, however, it can be safely assumed that the readership will consist of specialized technicians or technologists—for example, *Nuclear Engineering* is presumably read by nuclear engineers, and the *Muck Shifter* by public works contractors. *The Times Review of Industry* does not have a specialized readership and, without the benefit of a readership survey, it would be difficult to make a hard and fast definition of its readership. The editorial staff are fairly certain that the level of education of their readers is at least grammar school sixth form, possibly with a professional or technical qualification added and there are certainly many graduate readers. There will be among the readers managers of various grades and functions, engineers, research workers and, no doubt, even some company directors who, as we all know, have far too much to read anyway, and a further catagory of reader may well be found among technical journalistic colleagues, etc. We hope they read us because we read them enthusiastically.

If I may quote briefly from the foreword of *The Times* style book, which rules the style of associated journals or supplements such as *The Times Review of Industry*. '*The Times* has a special responsibility to maintain the standards of a philologically correct, unslovenly and accurate English, (but) this does not mean its language or its contents need be dull.' It will be clear from what I am saying that I propose to confine my remarks to the production of periodicals, and to give no more than a passing mention to the editing of technical manuals, upon which subject Major Hockley is much more qualified to speak. To bring together then the two ideas of reader interest and precise language is, or should be, the chief aim of a periodical editor. When that periodical is a technical one the task is correspondingly more exacting.

To solve the problem of who reads what part of a periodical, *The Times Review of Industry* divides its contents into sections. There are five of these. The first is devoted to articles of general interest to people in industry. Here the level of technical treatment is kept fairly low and the language is as much as possible layman's language. The second section is devoted to technical articles and for them the level of treatment is at least that of the specialized periodical in each technical field. In the April issue, for example, there was an article on nuclear batteries and the Editor had no hesitation in printing such sentences as 'a 10 millicurie strontium-90 source is separated from an aluminium collector by a polystyrene insulator $\frac{1}{32}$ in. thick', and 'direct current collection cell utilizes B-active source and a solid dielectric'. To a physicist or an electronic engineer the sentences are elementary. But to other kinds of specialists or laymen they may be far from clear. Yet words such as 'dielectric' and 'millicurie' are not jargon, they are part of the vocabulary of the subject. To satisfy the curiosity of those who may be wondering what the other sections of the review are I would quickly add that they deal with home industries, overseas industries, and finance and commerce in that order.

The foregoing description is no more than an outline of what one periodical does to satisfy the needs of a variety of readers. We hope that regular readers will not be put off by the bulk of the journal but will turn to the section, or sections, that particularly appeals and which we hope, even more, will be written in a language that they understand, and in a style which they will not find tedious.

If we were to follow the life of a manuscript through the various stages of publication it would help to make clear the series of treatments which the article has to undergo. A technical article may be born in one of several ways. It may be the fruit of research or some new development in technology which a manufacturing company or a scientist desires to bring to the notice of the public. (In this case, the public may be a very small one or at least a highly specialized one.) Or it may be that the Editor or a member of his staff has heard about a process and wishes to investigate and write it up. Or perhaps a technical journalist considers that it is time his periodical dealt with recent applications in, say, the plastics industry and sets out to seek an appropriate author and commission an article from him. Finding the right author is a preliminary operation that is not always as easy as it sounds—one difficulty may be that you will not find out he is the wrong author until after you have seen the article. An editorial staff writer of a technical magazine may be assumed to have been chosen for his qualifications and for his ability to write the sort of article which his journal publishes. In fact, some technical journals use only their staff writers and generally avoid outside contributors altogether. But in a technical periodical covering two or three subjects or divisions of industry or science there is always the possibility that the right man may not be free to tackle the article, and then it is a case of using somebody who may not be completely 'up' in the subject or commissioning an outside writer. I think that it may be generally agreed that in such circumstances the first consideration must be technical competence and not the ability to write fine English. Once the MS has been prepared there will be time to think about style and language. It is, therefore, wise to choose someone who may be known as a sound man in his subject and to whom others in his line of business look up as something of an authority. It would be naïve to think that the technical editor is ever free to choose the best man he can afford (and affording him is at least half the battle), because often he is too busy to accept writing commissions.

These days there is a tendency for companies with research divisions to conduct the Press on visits either to the laboratories or to the workshops where applications are being tested. These visits are generally arranged by the Public Relations Department of the company and the Press are shown only what the company wishes them to see, sometimes for security reasons where defence matters are involved, sometimes in order to safeguard a trade secret. Some awful blunders, and not a little ill-feeling have resulted from the mishandling of such occasions, for example there have been times when, a party having been conducted round a plant, a press conference is held when questions are asked and some 'off the record' statements are made by members of the company's staff. This is not wise on the company's part for it is possible that one or two facts which are meant to be 'off the record' get 'on the record' by mistake. This is especially likely where the confidential items appear to be quite straightforward and help to amplify the story. The best way round this difficulty is for the company to prepare a full technical description of the plant, omitting any confidential references and refusing to answer any questions which may be put to them concerning such things. From the journalist's point of view it is also very frustrating to have to prepare an article which tells only half of the story and it might be better for both if companies were not to invite large parties of journalists to visit installations about which they were not fully free to write. The real problem here for the technical Editor is that a great deal of apparently unnecessary secrecy is indulged in in certain sections of industry and too often the Public Relations staff or information staff becomes a bottleneck and not a channel of communication.

It is surprising that even today some authors and information staffs seem to be unaware of the printing process followed by the periodicals to which they are submitting an article or a handout. As a rule weekly and monthly magazines are printed flat-bed and set up on Monotype machines, although some periodicals do use Linotypes for this purpose. There are others which are printed by off-set lithography or rotary presses, and it does help if the person submitting copy bears in mind the mechanical requirements on the part of the compositor as well as the literary demands of the sub-editor. To put all this in a nutshell, copy should be type-written and not manuscript, should be typed on quarto paper—measuring roughly 10 in. by 8 in. (it is an advantage for newspaper copy to be typed on 9 in. by 7 in. copy paper along the 9-in. line, as this fits the copy tray of a Linotype), spacing should be double or even treble to allow plenty of room for corrections, and the first line of each page should begin about 1½ in. from the top edge and about an inch in from the left edge (economizers of paper who leave about ½ in. margin on top and at the left are the bane of a sub-editor's life for they leave him no room to insert a title, a catch-line or a by-line, and the compositor has no room at the top with which to fasten his copy to the tray). This is a purely mechanical arrangement, simple enough but seldom followed.

While on the subject, I would like to criticize press handouts for not obeying similar rules. They are often too long, duplicated in single-spaced typing on foolscap and both sides of the paper! In some instances it is inevitable that technical handouts should be lengthy—you cannot explain the workings of a new cement-making process, for example, in 200 words. It is possible, however, —and I know of several firms who do it—to produce a detailed technical description of new plant and a brief additional press release highlighting the main points. One exemplary firm, (I can tell you that it was Albert E. Reed because I am paying them a compliment), when conducting a party of technical journalists round a board mill supplied the chemists, the packaging press, the engineers, the architects and the general lay press with a set of handouts, one of which was for their special interest and the others for their information so that no-one felt that he was being starved of any details which might possibly be useful. This sort of service may be regarded by some people as 'spoon-feeding', but I can tell you it gets results, if it's publicity you're after.

Having talked of physical presentation let us turn our attention to contents. It is up to the Editor to decide how to balance the contents of the journal to serve his readership in the best possible way. But there are times when he will have to decide the merits of particular articles sent in by freelance writers, whose subject may not fit in with the general policy but may be too important to ignore. Here, unless the authority of the writer is unimpeachable, the Editor's difficulties begin. It is not always easy to establish the standing of an author, particularly if he writes from abroad. There are some journals which, as I have said, use very little outside material partly for this reason. It can be embarrassing for an Editor to have to extricate an unknown author and his own journal from a predicament created by the publication of a specialized article which it was not possible to check sufficiently and was discovered after publication to contain misleading information. A careful appraisal of the basic information is, therefore, always necessary and it is sometimes advisable to ask outside authorities to confirm facts or figures and where manufacturing companies are mentioned to secure their agreement if it seems to the Editor that their interests are involved. The same sort of caution needs to be employed where pictures, diagrams and tables of figures are used. There are a great many pitfalls in the reproduction of such visual material. There is little enough time here to make reference to half-tone reproduction and the desirability of having a picture of a piece of apparatus correctly displayed and captioned. There must be many technical journalists who recall with a shudder the time their journal published a block upside down or sideways, and the same has been done with charts and diagrams where the assistant who was making up the page conveyed inappropriate instructions to the compositor because he had failed to appreciate the nature of the chart. This is particularly applicable to graphs.

A word should be said here about the futility of some diagrammatic illustrations. I may be wrong, but I have a feeling that isotype and pie diagrams and similar visual presentations have become so popular that no article is thought to be complete without them. Provided that they express some statistical truth which is not as easily and forcibly expressed in words their use is legitimate. But where they are merely devices for breaking up the type area it can be dangerous to include them because readers may take their vagueness as gospel. Authors who need to include tables of figures in articles should always present them on separate sheets of paper which will enable the composing room staff to set the whole thing in type more quickly as each table can be worked on separately. In any case, the sub-editor or printer will have to cut the copy up in order to be able to handle the tables, with the consequent danger that a piece of the article may be lost, or a line pasted over. The drawing of diagrams for reproduction is a job for the expert unless a technical author is gifted enough to have this additional skill. It must be remembered that line engraving cannot be done from pencil or crayon diagrams—they need to be, ideally, in Indian ink and made to a size which will allow reduction without rendering any lettering or numbering illegible. If such diagrams have to be redrawn at the editorial offices the contributor should see that his copy reaches the offices a week or two earlier. Redrawing takes time. It hardly needs to be said that where tables are given checks should be made that totals add up correctly, and where figures have been rounded out from decimals that an appropriate explanation is given in a note.

How far ought a sub-editor to modify or amplify a contributor's article? The answer to this question depends largely on the writer's own treatment. For example, an article originating in the United States may contain local technical expressions not understood in Britain. It is then legitimate to find synonyms or paraphrases in general use in technical circles. There are also one or two American usages which might not be considered good style, (every publishing house has its own preferences in the use of words, preferences which are sometimes called 'the style of the house'—*The Times*, for example, prefers to use the word 'oversea' and not 'overseas', and prefers 'afterwards' to 'subsequently'). Some American expressions such as 'malfunction' may be regarded as bad English, while others such as 'capacitor' for 'condenser' have become acceptable to English radio technicians and may, therefore, be allowed to stand. This may all seem quite obvious but it is my experience that most authors do not like being restyled. To send a proof to author is courteous, but has its snags, e.g. last-minute corrections.

What has been said here may be summarized as adjusting the style to the assumed readership. It is also advisable to dispense with certain adjectives, especially 'biggest', 'newest', 'first', 'unique', etc. Innovations so seldom are.

The purpose of 'house style' is, of course, consistency and anything which abolishes the irritation of inconsistency and slipshod writing is to the reader's advantage and it is the reader whom we serve. It is for this reason that I would say a word in favour of the British Standards Institution symbols, which make it certain that one is always using the same symbol for the same purpose. As a brief example it is advisable to make up one's mind whether to use capital V or lower case v for volt and whether megavolt will be written with a capital MV and millivolt with a small mV, and so on. Proprietary names should also be consistent. It is often forgotten that Thermos should be written with a capital T as a proprietary name, as should Perspex or Cellophane—the latter being, in fact, an adjective and not a noun should always be followed by a noun such as sheet or film. Once such decisions have been made they should be enforced. This does not rule out the necessity to be flexible and make use of improvements in nomenclature and symbols as they become available. (m.p.h.—miles per hour—is logically not good style, but it is accepted as being common usage.)

It would not, perhaps, be desirable to expand on the mechanics of sub-editing, proof correction and the making up of pages for imposition and printing in this paper. Chapter seven of *The Technical Writer,* by J.W.Godfrey and G.Parr, provides a brief account of procedure for those who wish to study it. It had better be said, however, that wherever possible an author should be given a chance to read his own proof and a company or research organization should similarly be sent proofs of any material which describes the work they are doing when they will be able to check it for accuracy and policy. This last suggestion may sound like a contradiction, remembering what I have said about secrecy, but it amounts to nothing more than recognition of a state of affairs which exists and within which the technical editor has to work for the present. It has often been said that free enterprise and competition in this highly technical age have tended to become more of a handicap than an advantage because innovations and new processes are not made available to the whole of industry but only to a section of it. One of the roles of the technical journal is to disseminate such information wherever possible without restriction, but it would be naïve to try to suggest a hard and fast policy which ignores the competitive defences of private industry. Without their support many technical journals would languish.

Depending upon the frequency of publication it is, of course, desirable to keep to topical material, which becomes one of the many conditions which call for speed in the process of production. There is bound to be competition among periodicals whose contents overlap in interest, and naturally enough each editor wishes to be ahead of his rival. It goes without saying that this is seldom possible for most periodicals, but those who supply the press with technical information should not be surprised if some monthly journals devote less space to a topic once the weeklies have dealt with it in full. It can, in fact, be quite heartbreaking sometimes for an editor to have to drop out or hold over a highly topical article and then perhaps not be able to make use of it in the future. The wise editor does not give up as easily as that, however, but holds on to the material until circumstances allow him to make use of it again as background to new developments. One can only be thankful that so far there are no daily technical journals—the existence of so many thriving weeklies is quite enough of a trial to the Editor of a monthly technical journal.

I have said little or nothing about the editing of such publications as institutional proceedings, instruction manuals and the like. What I have said about technical editing applies for the most part to society's papers and proceedings. (I would say here in parenthesis that there is really no necessity for speeches and lectures to be printed unedited, nor to be presented quite as dully as some are.) The production of instruction manuals, which is comparatively a once-for-all process, although they run into several editions, is very much another subject, and not one on which I am well informed.

From what I have learned in the preparation of this paper, technical editing is not one subject, but several. Aslib has shown great initiative in launching this conference. I am sure that all those who participate must come away feeling that the way has been marked out for an even deeper and more extensive exploration of these matters.

CHOOSING THE MEDIUM: PRESENTATION THROUGH NON-PRINT MEDIA

EDGAR ANSTEY

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Conference on the Presentation and Interpretation of Technical Information, London, 8th May 1959

I AM going to interpret my terms of reference—the non-print media—a little more literally and widely than the Chairman has suggested. We heard so much this morning of the need for accuracy in the interpretation of a brief that I cannot content myself simply with a talk on films!

I am going to look at the problem of choice of media from the point of view of the writer and also from the point of view of the producer or sponsor (who may be equated in literary terms with the publisher). The burden of choice obviously does not lie simply with the writer: it is found also in other and perhaps more powerful quarters.

Faced with the choice of the medium in which to work, the key question every writer or producer should ask himself is: what is to be communicated, to whom, in what circumstances, and at what cost? If he succeeds in answering that question he is likely to hit on the right medium. But it is a very complex question to answer, because the factors I have mentioned—what? to whom? in what circumstances? and at what cost?—are interrelated and all affect one another.

The two groups of non-print media that I propose not so much to discuss as to touch gently upon are these: the speech media, with or without mechanical aid, i.e. a speech in the parish hall or a radio broadcast, (or the latest form of public address system, closed television circuit, to which many of our leading industrial organizations are becoming fashionably devoted), and the visual media—the display, the exhibition stand, films, filmstrips and television. In deference to an apt question put this morning, all these can, of course, be garnished with diagrams and frequently are.

What can the writer's contribution be in these several fields? As I see it, it can be two-fold. On the one hand he can produce the plan for an exhibition stand; he can produce the plan for a film or filmstrip; he can produce the plan for a radio broadcast or for a television programme. On the other hand he can at a later stage also provide the text of what specially is to be said in connection with these things—commentary (in the case of the exhibition stand, the captions).

How does he stand in relation to the other operators in these various fields? This is a very touchy question. Writers frequently come into films and having written the treatment for a film they see the finished production on the screen a long, long time afterwards and find it has no relationship whatsoever with the treatment which they originally contributed. We are on dangerous ground, therefore, in trying to assess the relationship of the writer to the other people in the team. To avoid keeping you here for the rest of the afternoon, I had better deal with the whole important question of team relationships in terms only of the film. Yet, to a considerable extent what I shall say is true also of the other non-print media.

In the film team, there is first of all the producer who is responsible for supervising the making of the film, for the overall plan. In some cases, he is responsible for the decision to have a film made at all. He looks round for two people (who may in certain circumstances be the same person)—the director and the writer. He is likely to look first for the writer, because he wants to get something on paper which will be an indication, to him and to other people concerned, of what it is intended eventually to film.

Sometimes the writer will also be the director but, putting that on one side for the moment, let us think about what the writer called in at this early stage has to do. He has to provide what I described a moment ago as a plan, an outline treatment which he may then be required to develop into a more detailed treatment.

Later comes the shooting script which is broken down into long shot, close shot, mid shot, and set out in two columns—picture on one side and commentary or dialogue on the other. Here preferably the writer will be assisted by the eventual director of the film, because this is a more technical matter. Not, let me hasten to add, that writers are incapable of grasping the technicalities, but rather because the director of the film will want to handle the work in his own style and so he and the writer will work together on the breakdown into shots and the details of camera movement and so on.

Then the director takes things into his own hands. He goes off and shoots the film. Eventually the original writer or, I fear, quite often a different one, writes the commentary of the film. This he will do when the picture has been roughly assembled so that it can be shown on the screen. He can try out various commentary versions and eventually the final one, after approval by the producer, will be recorded and mixed with the music and natural sound in synchronism with the picture. Ultimately the show copy will be ready.

The writer at the two stages in the non-print media—firstly producing the plan and secondly writing the commentary or dialogue—is very much one of a team. Some writers find this irksome, although most respond well and finally come to prefer to work this way. If the relationship of the members of the film team is not good, the final production will probably suffer (although not always). The group relationship is normally rewarding and helpful to the writer, even though he may feel that his work is being messed about a great deal.

So much for methods of production in the non-print media. To choose between these media, to compare their strengths and weaknesses, let us take a hypothetical case. Let us suppose that we are faced with the need to communicate to a large audience, of hundreds of thousands or millions of people, the nature of a coal-miner's job at the coalface.

To begin with I believe it would normally be a great mistake to regard this as simply a technical task. Here I should have the support, I think, of this morning's speakers. I hope you would agree that it is necessary to communicate something of the emotional atmosphere, either by an introduction or better still by some means permeating the whole of the work. We are concerned not simply with describing what the coalface miner does but also with the circumstances in which he does it and perhaps with the interpretation of some of the emotions he feels. This could be done in an article in a popular or less popular magazine, with or without illustrations, and a great deal could be achieved.

By contrast with the print media let us consider what may be achieved by a radio broadcast. Here we have not so much a cost problem as a problem of access, how do we get the opportunity to broadcast our views on the coal-miner at the coalface? This is another story and a long one, not for this afternoon but, given the opportunity, then I think the broadcast will add to the—dare I say?—cold print of the newspaper or magazine article a quality of personal conviction. It might, I must add in fairness, do the exact opposite because not all broadcasts are successful in carrying conviction. It is a gamble; but you have a chance of convincing your listeners that you really know something about your subject and that you yourself are really persuaded of what you say.

How about an exhibition display? We have had very effective demonstrations of coal-mining conditions underground prepared at some considerable expense for use in exhibitions. It seems to me that such a display can add much that was absent from the written word and absent from the broadcast—an assortment of visual impressions carrying their own conviction. You can see the coalface, even at actual size, or at any rate a scale representation of it that gives an idea of the height or lack of height in which the miners have to work. You have a demonstration of what it is physically like, but it will lack the element of personally participating conviction. You would have captions, perhaps diagrams and maps, but the total effect would probably still be impersonal.

Now we come to the film. The film will probably cost very roughly what the exhibition display would cost. This is a dangerous generalization but I cannot be proved wrong since the range of costs in both fields is enormous! If you have a really big exhibition display, it will cost many thousands of pounds, as also will a really effective, professionally-made film; they are comparable to that extent.

With the film, you have in some degree the best of both freedoms—of words and visual representation, and the latter can include animated diagrams as well as live action. You have also the possibility of personal commentary or dialogue by people knowing about mining. If you want to get your film into theatrical distribution, and assuming it is not simply an advertisement that you are willing to pay to have shown, you are up against the same problem of access as in broadcasting or television. But non-theatrical distribution is open to any sponsor who can offer copies of his film to those thousands of organizations that own projectors. Or with his own projectors the sponsor may offer screenings to suitable audiences invited to any local hall or room with an electricity supply and facilities for black-out.

Some costs might be of interest here. Leaving out the very glossy theatrical documentary with distant and different locations or artists and expensive sets to be lit for colour, the cost of a well-made technical film may range from £800 to as much as £8,000 per ten-minute reel. In the Transport Commission's Films Service, when we reach the non-theatrical audience available to us with a two-reel film in the middle of the price-range, costing perhaps £4,000 or

£5,000 per ten-minute reel, we find that we are getting twenty minutes' undivided attention from our audience at a cost per head (covering distribution as well as production) of no more than ½*d.* This makes the film a very cheap medium indeed, once a non-theatrical distribution outlet has been built up and you can count on reaching two or three million people. And remember that it is a twenty-minute opportunity, not a twenty-seconds flash.

Let us go from films to filmstrips, which are the modern streamlined form of the lantern slide, costing certainly no more than a tenth of what a film would cost. The filmstrip consists of a series of still pictures printed together on a strip of 35 mm. film so small that you can carry it in your waistcoat pocket. The projector is easily portable too. The filmstrip (normally of twenty to sixty pictures) can be accompanied by notes in printed or roneoed form. Here again the writer can have two functions, in planning the filmstrip and also in writing the notes which go with it.

The filmstrip has not the power of the film to arouse emotion but it is a strong visual medium and is being increasingly used because of its cheapness and portability. A fairly recent development is the addition of sound. The filmstrip pictures are turned from frame to frame to match paragraphs of commentary or even dialogue recorded on disc or magnetic tape. It can be done manually or by means of a supersonic pip on the tape which actuates the projector automatically. A number of organizations are using talking filmstrips, particularly in the safety, welfare, and sales fields. For our mining subject it has much less to offer than the film but much more than the sound broadcast (with the possible exception of a live transmission from the coalface).

Let us consider now amongst our non-print media the live telecast. If you want the maximum amount of emotional effect from a subject like mining, plus a great deal of technical information, this is perhaps the strongest medium of all. You can have underground material pre-filmed, you can use diagrams to show the relationship between the coalface and the men on the job. Your miners can be seen at work, just as in a film, but there is the opportunity to conduct interviews with men at the coalface during the course of which the viewer can get to know a great deal about what they feel on the whole subject of mining. The telecast, which may well be cheaper than a film, is potentially the strongest medium of all provided that you can get access to the means of distribution, that is to the transmitter. Of course, this is the catch. You have to persuade the television people that what you will show is of sufficient interest to viewers to command the freedom of their network or station for an adequate amount of time. And you have to persuade them by words on paper—a treatment—before you can even begin to work on the technical problems of your programme.

Let us now go back over the different examples I have examined in terms of my miner at the coalface. Can we perhaps safely reach the following conclusion? The speech or the sound broadcast adds direct communication of emotion to the scripted ideas. That is to say, we have words to which conviction and a degree of appropriate emotion may be added by the speaker's vocal presentation of his material.

The exhibition display adds integrating ideas to the visible facts which visitors to the exhibition can see for themselves.

Films and television can also directly communicate the visible facts which we find in the exhibition display, but these two media have in addition the possibility of an emotional overtone which comes from personal participation in picture and sound—by emotion directly communicated by the miner himself.

This all leads me to the conclusion—which you may hotly condemn later—that the visual media and the spoken word carry the possibility of direct non-verbal communication. In the case of the radio broadcast the facts are presented by words and an emotional addition comes from the manner of the speaker. In the case of the film or the television broadcast an emotional addition is made by the presence of people appearing in front of the camera and, again, it is such as to constitute a communication which is non-verbal.

For the writer, this requires that in preparing his non-print material he needs to break beyond verbal restrictions to symbols, inflexions, and situations that communicate more directly.

Following such planning of his symbols the writer must prepare his verbal communication, (by dialogue or commentary), in terms of vocal expression—not simply in terms of verbal expression.

If I am right in my thesis, the non-print writer must judge himself—or be judged—in terms of his ability to select and assemble viable symbols and to interpret them with appropriate emotion. The film, television, or radio writer must plan the emotional inflections and overtones of his work.

If you feel that what I have said applies only to popular presentation I must remind you that even in the most difficult and intricate speech describing a scientific process conviction must not only be present, but must be audibly present. The speaker must persuade his listener that he really is convinced of what he is saying. The transmission of conviction is in itself an emotional matter, it may come naturally or it may be an acquired skill.

May I say a little more about the special advantages and disadvantages of communication by film, radio, and television? One of the advantages, I think, of film and television communication is that they hold possibilities, for countries of low literacy, of education by non-verbal communication.

Let me take as an example the fact that in many countries today where the literacy level is low, they are familiar with the working of the petrol engine. It is a part of their lives. They find themselves looking at it, working with it, being banged into by it. It seems to me that there exists the possibility of teaching the processes of logical thought by reference to the analogies provided by the operation of the petrol engine.

If this is true and if one can teach logical thought by mechanical analogy then the film can help enormously by concentrating and making widely available this kind of lesson.

Let us consider next the contrast between communication by the printed word and direct visual communication. Communication by the written word is limited. It may be held that its limitations are a measure of its precision: that there is safety in the disciplines of written communication. Yet I believe that non-verbal communication, as a result of its emotional overtones, can be broader and more penetrating. And, as we have seen earlier, films and television—whether we like it or not—are all the time utilizing non-verbal communication.

If the Prime Minister and the Leader of the Opposition appear on television one after the other, it is not, in my opinion, so much what they say as their manner of saying it that counts with the electorate. This is emotional communication, rather than the communication of facts. And what dangers there are in this! Non-verbal communication can be dynamite.

An example I should like to give you is of a film shown recently at the Harrogate Film Festival. It was a film on safety which seemed to many of us to do its job well. The audience seemed to appreciate it. It showed what precautions needed to be taken in a certain industry against injury resulting from the processes used. Some of us were discussing it afterwards and suddenly the argument was put that if this film were shown to people working in that industry they would leave in their hundreds. This was an exaggeration but with a grain of truth in it. The emphasis thrown on dangers in the industry was such that they might come as something of a hideous revelation even to people working in industry. There was nothing in the words used to cause alarm, but the producer had lost control of the emotional overtones arising from his visual symbols.

Finally I would like to draw your attention to some common faults by writers which arise in commentaries written for films. I hope you won't take this amiss since I am sure you can come back in the discussion with all sorts of producers' faults.

Often the writer is absolutely determined to describe the picture. The picture is there, clearly to be seen, yet he is determined to tell you exactly what is happening. More than that, he always tells you in the passive tense. Processes are always applied to objects; there are never any subjects. And more than that, they are always applied with care, carefully, very carefully, with meticulous care, with particular care, even with extreme care. I am looking forward very much to the film which one day will tell us that the worker does his task carelessly. The audience will immediately rise to their feet and applaud, or at least wake up.

Then we have a peculiar jargon which seems to be a disease afflicting film commentary writers. It is a disease that can be caught by the most eminent writers. I know of three cases where distinguished men of letters were persuaded to write their first commentaries for films, and when their work came in, believe it or not, these three distinguished chaps had produced commentaries worse than anything that normally comes from an apprentice commentary writer. The commonest of clichés were sprinkled with greater liberality than I have ever seen before. I can only suppose that the idea has got around that there is some special mystique of commentary writing—and that is why I mention it this afternoon. The jargon, the clichés are not obligatory. All a writer has to do is to remember what he is communicating, and to whom, and to watch the relationship with the picture. There is no special style or syntax for film writing.

One last word, and here I am indebted to Mr Robertson who spoke this morning. Writers frequently discover that their work does not survive in its virgin state through to the final production. All I can say about this is that the producer, in Mr Robertson's delightful phrase, always feels that he has the right to 're-style in the manner of the house!'

TECHNICAL WRITING AS A CAREER: PRODUCING THE PERSONNEL

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Conference on the Presentation and Interpretation of Technical Information, London, 8th May 1959

I SUPPOSE it is generally true that for most of the established professions, those who are *outside* any particular 'magic circle' regard the business which is carried on *inside* it as a complete mystery; full of pitfalls for the unwary; needing an enormous amount of hard work and training to get to the 'top of the tree'; closely protected by an association or society, or even by the law!—and so on.

When we come to look into the subject of technical writing, however, we find that exactly the opposite state of affairs obtains—due, doubtless, to the absence (so far) of any professional status for that occupation. Any Tom, Dick or Harry can, without let or hindrance, pick up a pencil and start to write on some technical subject on which he thinks he is knowledgeable—indeed, to judge by what one sees distributed in both typescript and print, it is pretty clear that many well-meaning people do—just that! It would be pleasant to look forward, if we were allowed, into a future where perhaps some of these would-be writers might get a little help in the direction of a better understanding of the craft which they appear to find so attractive.

As a useful starting point, let us see just how wide this field of technical writing can be. It touches, in direct or indirect form, practically every human activity; it can be applied universally, whatever the language requirement, and almost down to the lowest level of intelligence likely to be met with in a potential reader. Because every new invention or development automatically induces a corresponding need for words and/or illustrations by which it can be described (or 'presented') to those unfamiliar with its details, there would not appear to be, in the forseeable future, any shortage of work in technical writing.

For the purposes of this discussion, and to make reference easier, it is practicable and helpful to place, in four distinct major classifications, the bulk of the technical writing produced in the world today.

Technical journalism

This is the business of writing the articles which convey new information or views on particular technical subjects of current interest, and which appear in the columns of trade and technical journals, periodicals, and certain newspapers. Such articles may be contributed by an 'outside' specialist, working in a free-lance capacity (and normally remunerated on a 'fee' basis), or they may be the work of members of the salaried staff of the publication. In either case it may be necessary for the writer of an article to travel to some distant point—a works or site, for example—to gather the necessary facts and drawings, see to the taking of photographs, and so on. The material ultimately produced will appear in whatever language is relevant to the country of publication, and the journal which contains it is usually distributed—by purchase, or internal works or office circulation—to any interested persons. Although it is not necessarily a *condition* of distribution, such persons must, in general, be regarded as *literate*. The technical journalist is, of course, engaged in 'selling' his journal in a very subtle way, and to this end his work *must* be of interest to at least *some* of the potential readers, otherwise circulation will fall and the publication may ultimately cease to exist.

Technical advertisement copywriting

Although the work of the technical advertisement copywriter finds its way into the same media as that of the technical journalist, the nature of the work is rather more highly specialized, and there are fewer good practitioners to be found. Technical advertisement copywriters are employed as members of the staffs of advertising agencies; manufacturing firms having their own publicity departments; and—in very special cases—by such trade or technical journals as are willing to provide an advertising service for the benefit of purchasers of their 'space'. A small number of technical advertisement copywriters also operate in a free-lance capacity, serving both advertising agencies and manufacturers. Here again, the finished work can appear in any required language, but in addition to the literary requirements on the part of the person into whose hands a technical advertisement falls, and an equally insistent need for the written words to be interesting, it is most necessary that they shall also appeal to the reader, to the extent of making him do something—for after all, the main purpose of advertisements is to generate sales for the advertisers products.

Technical authorship

The first kind of individual one normally thinks of in connection with technical authorship is the free-lance type of person who writes (and gets published), a text-book dealing with one or other of the technologies. By no means all technical books that are written achieve publication however, the normal course of procedure by the publishing house being to 'vet' the manuscript very thoroughly before deciding to take the financial risk involved. Sometimes the manuscript is submitted to a panel of outside experts, who are paid a fee for examining and reporting on the value of the work, its accuracy, method of presentation of the facts, suitability for a given range of readers, etc. When the writer is a well-known author and an established expert in the subject, the need for 'vetting' is much reduced, and it may even be that the publisher has actually commissioned the work, i.e., has requested the author to write the book with a view to its publication on completion. All technical authorship of this particular kind depends on the readers being not only literate, but having sufficient keenness in achieving mastery of the subject to continue with the study of the book—even though it may not be written in a particularly interesting style or deal with a particularly absorbing subject.

During the last thirty-five to forty years, there has grown up in engineering and the scientific side of industry, a new kind of technical writer—or 'author' as he is sometimes called—such persons being employed (as staff members) by manufacturing firms; by concerns specializing in the technical publicity field, and by Government departments. The task of engineering technical authors is to write (and frequently, also, to carry through all the stages of production), many kinds of instructional handbooks—both of the 'User' type (for giving information on the use or operation of a piece of machinery), and the 'Technical' type (through which more highly skilled persons, such as craftsmen, are instructed in maintaining and repairing a machine). Other work executed by such technical authors includes training aids, lecture notes, and explanatory documents. Technical authors in industry (i.e., excluding *only* those employed in such a capacity in Government departments), frequently write, in addition to instructional handbooks, the basic material for technical sales publications, catalogues, brochures, leaflets, etc.; also the material which is used to form the basis of technical 'public relations' campaigns. The work of this particular kind of technical author is very frequently translated into other languages and he may also be required to convey his instructional matter to persons who are approaching the illiterate state. In such cases, words can either not be used at all, or only very sparingly, and the technical author is therefore forced to make use—through the collaboration of his partner at work, the technical illustrator—of pictorial representations in photograph, drawing or diagram form, in lieu of the text that he would normally have employed.

Scientific and works report-writing

There are many people engaged in the various forms of scientific and works report-writing. Whilst it is true that a large number of scientists write their own technical reports on experiments, trials and investigations, etc., it is also a fact that specialist report-writers are frequently employed (as staff personnel), to prepare reports from the technicians' or scientists' rough notes. In quite a number of cases—particularly in small concerns—technical report-writers do such work as a part-time job, sandwiched in between their other duties. The principal object of their activities is to make readily comprehensible to others in the same (or a related) establishment, the work of scientists or technicians, without in any way lowering the standard of the initial technical accuracy achieved. Such report-writers take the results of a field trial or survey, a laboratory experiment, or a workshop production or progress record (for example), and prepare for higher management (or whatever other level is indicated), a concise and accurate report which presents the case clearly, objectively, and without technical or other bias. Naturally, in matters involving research or development work of this kind, no question of literacy on the part of the reader(s) can arise, and the subject matter does not necessarily have to be prepared with an 'interest' value in view—on the contrary, the treatment is usually entirely factual.

What sort of qualifications are needed in order that a person may successfully practice in one or other of these four kinds of technical writing? The primary requirement is, of course, *knowledge of the subject matter*—though there are people, even today, who will deny the obvious truth of this. There are, of course, wide variations in the demands made upon the fund of knowledge possessed by a writer who is generally considered to be capable in his own particularly sphere, but to write satisfactorily in the chosen technology, it is by no means essential that the writer should, for instance, occupy the Chair in that subject at a university. Sometimes it is much better that he should *not*, for quite a few of those present here today must surely have suffered from the efforts of learned men whose very depth of knowledge seems to preclude them from giving a lucid explanation of even first principles. At the other end of the scale, however, the unhappy plight of the writer who is trying to produce maintenance instructions on a diesel engine and is not quite sure if it has a magneto or not, needs to be seen to be believed!

Being given, then, the requisite depth of knowledge in the chosen technology, so that the subject can at least be handled—the next step is to obtain, from whatever source it has to come, any new information which it is required to pass on to the ultimate recipient (the 'destination', as Mr. Godfrey has so aptly called him). On the occasions when the competent technical writer is also the principal expert on the subject, there is no need to do any 'obtaining'—the data is all in the writer's own head and only needs to be set down on paper. In the majority of cases, however, the 'new' material has to be collected from a source—usually from a person who is (or has been) engaged in some relevant work on the subject matter, but who either cannot be spared the time to set down the details or who, because of his education and outlook (as in the case of certain types of artisan, for example), could not perform the duties of a scribe even if he were willing to do so.

Much opportunity for a keen appreciation of psychology exists in this task of gathering information, not the least of the troubles being the fear, on the part of the possessor of the information, that he is in danger of losing his job if he parts with the really 'vital' bits! To break down this unhappy atmosphere, gain the confidence of those whose expert knowledge can make life easier and safer for perhaps thousands of others, and to record, in clear and concise form, the wanted details, is not only a fascinating study, but a rewarding one, too.

Some of the points just made apply with equal force to the preparation of material which is to help in the accomplishment of a sale—whether it be advertising 'copy' or sales 'literature' as it is called. But here we have to bring in another and totally different aspect; the writer has to place himself (if he can!) in the position of the potential buyer—who is almost certainly a technical man too—and look at the subject matter from that standpoint. What *is* it that the buyer will want to know? In what form should the available details be set out for the most convenient and convincing presentation? What features should form the links between the illustrations and the text, and which of the many available illustrative treatments would best suit the subject matter? These are but a few of the more obvious questions that the technical writer has to think about before he can even start the preparation of sales material in written form.

Every kind of technical writing demands an ability on the part of the author to express his thoughts in clear English. To do this, the first essential is to be able to think clearly; not only in terms of the chosen technology, but also with reference to the reader—the recipient of the information. The words used by the technical writer are mainly vehicles for the transference of facts, and there is neither necessity nor scope for rhetoric or long words (which often act as a screen for ignorance).

Now a word or two as to the examinations that are open to persons wishing to earn their living as technical writers or authors. The acid test of any candidate for a post in this field is, of course, 'can he, or can he not, *write*?' Whilst it is true that a short trial will soon show his strength, it is also convenient and helpful to be able to measure the ability of a person against a recognized standard, where such exists.

Referring, first, to the technical journalist, it would appear that, at the moment, there is little in the way of a recognized specialist qualification as a writer which he can obtain. The Newspaper Proprietors Association have, of course, a scheme of examinations in 'Daily Journalism', but this is aimed more at turning out a general reporter than a specialist writer in the technical field. In the majority of cases, the technical journalist receives his training (after having obtained whatever qualification is demanded in his own particular technology), in the editorial department of the publication on which he is employed. This journalistic training may come through the editor himself, through an assistant editor, or another technical journalist. It is, by the very nature of things, a process of following in some particular person's footsteps—if they are well-placed, the ultimate result will be satisfactory; if the reverse, a journalist of mediocre standard only is likely to be turned out.

Neither the writer of technical text-books, nor the technical report-writer have, at this moment, any recognized standard of writing qualification, but this may, to some extent, be corrected in the future if intending entrants to the field of technical report-writing take the Intermediate Examination in Technical Authorship of the City and Guilds of London Institute. The work covered by this particular Examination (Syllabus 229), should prove adequate for most purposes of report-writing, since the more detailed study of reproduction processes, not normally considered essential for report-writers, is confined to the second part of the Syllabus—that which leads to the Final Examination. The current method of selection and training is rather of the 'hit-and-miss' type, and in many cases the only actual tuition is by 'doing' (under the possible guidance of a senior). Nevertheless—particularly in a works, where the standard of writing is usually extremely low—almost any effort will prove better than the product of the average 'shop' man's pen.

It is not thought likely that authors of technical text-books will ever be inclined to seek a writing qualification before commencing their books, but there is little doubt that their work would be vastly improved—and their publishers saved many 'headaches'—if, in fact, they did so.

Advertisement copywriters and technical authors in industry do, however, have the benefit of examination facilities. The Advertising Joint Intermediate Examination Board hold annual examinations which are designed to test the ability of copywriters in a number of subjects of specialist value from the purely advertising standpoint, but also included in the examinations are three-hour papers dealing with English, Psychology in relation to Advertising, and Advertisement Design and Presentation. Successful candidates who complete the requirements of the Board, receive the Certificate, which enables them to take the Final Examination for Membership of the Advertising Association, also Membership of the Institute of Practitioners in Advertising. In addition to this, the latter have a special category of Associate Membership for specialists, among whom are copywriters ; for this group a separate examination is held in order that their skill as specialist copywriters may be tested. The papers for these examinations are of general application only, and do not embody, in any form, matters of engineering technology or scientific work. To this extent, therefore, the advertising profession does not attempt to train a *technical* copywriter, but merely a *copywriter,* leaving it to the individual to effect what links he considers necessary or desirable between his chosen technology and the general training given in advertising subjects under the examination.

The new scheme of instruction and examination in Technical Authorship drawn up by the City and Guilds of London Institute, on the other hand, does set out to provide a thorough grounding in all the essentials of technical writing and production work (i.e., to fulfil the entire functions of a technical author in industry or Government service), within the limits of a four-year part-time system of instruction. Courses are expected to be available in September of this year at several centres, and both men and women are eligible for admission to them.

The course of instruction, as laid down in the Syllabus, is designed to provide a person who has already chosen his particular technology, and has qualified in it according to certain standards, with the requisite additional knowledge to enable him to write effectively upon that technology, whether he (or she) be a young entrant or a practising technical author. Entry to the course has purposely been made wide, so as to give opportunities to persons of almost every grade in technical or scientific work—and having the ex-serviceman or woman especially in mind. They must, of course, have an adequate command of English to start with (up to G.C.E., Ordinary level), and possess a suitable technical or scientific background, such as:

i. An engineering apprenticeship (or a suitable technical qualification in the Royal Navy, the Army or the R.A.F.)

or

ii. A Certificate of the City and Guilds of London Institute in a suitable subject, e.g., Machine Shop Engineering or Telecommunications Engineering, plus at least three years practical experience in a technology

or

iii. An Ordinary National Certificate, plus at least three years practical experience in a technology

or

iv. A university degree or higher diploma, plus at least two years practical experience in a technology

or

v. Current experience as a technical author, or a recommendation by their employer as being suitable for training as a technical author.

Attendance at a college for at least five hours a week and 150 hours a session —making a total of 600 hours for the course—is expected, of which half is devoted to the Intermediate and half to the Final Syllabus.

The break-down of the two syllabuses may prove of interest. Dealing first with the Intermediate Examination, this is divided into Sections A and B.

Section A deals generally with technical literature: the work of the technical author and his relations with other departments in a works: various types of technical publications: the work and methods of the technical illustrator: a brief introduction to methods of reproduction: the scope and purpose of a publication; quantities and format, also text and illustrations and their arrangement, etc.

Section B deals with the English language as a means of communication and discusses also other methods of conveying information; the author-reader relationship and means for assessing the reader's needs. Spelling, grammar, punctuation and paragraphing form part of this section, too; also words and their meanings, style in writing, importance of accuracy and orderly development, summarising and précis work, etc. The art of gathering information from other persons, and from books, diagrams and engineering drawings, is also dealt with, as well as house rules, preparation of drafts, correlating text and illustrations, proof correcting, printers' 'style of the house', etc.

In the Final syllabus, under Section A, students are taught more advanced details of the different kinds of technical illustrations available—also basic information on film strips and other visual aids—and they are taken a little more deeply into photography, office composing and reproducing machinery, the various printing processes, hand and mechanical composition, process work and the numerous forms of binding with which the technical author must be familiar. Economic aspects are also dealt with, including the costing of authors' and illustrators' work and translations, printing, reprinting and running-on. The section finishes with some instruction on the legal aspects of authorship, including such matters as copyright, the law of libel, imprints, etc.

Under Section B of the Final syllabus for technical authorship, considerable practice is given in technical writing, including more difficult exercises and more ambitious projects—taking the work as far as the complete planning of publications and the working out of print production schedules. A final feature of this section is the teaching of administration of a technical publications department—including organization and layout, methods of control, records, storage, amendment systems and procedures, etc.

Being an essentially practical course, it is recommended that not more than fifty hours out of the minimum of three hundred hours should be devoted to Section A of the Intermediate Syllabus, and not more than seventy-five hours to Section A of the Final Syllabus. Section A in each grade is planned to be dealt with by lectures, illustrated by examples of various kinds of technical publications and technical illustrations (drawn, as far as possible, from local sources), and supplemented by visits to technical art studios, printing and process engraving works, or college printing departments.

The authorities have stressed the importance of not overweighting instruction, particularly at the Intermediate stage, with printing technicalities. What is needed, is, of course, an appreciation of the significant differences between (and the relative advantages of), the various methods of producing copies of technical publications, and the recognition of common defects in printed work. Similarly, the technical author needs to know sufficient about the methods of the technical illustrator to be able to work with him in intelligent co-operation.

Insofar as Section B of the syllabus is concerned, the suggested method of handling the work is that not more than 20 per cent of the time available for this Section should be allotted to lectures or the exposition of principles. The remainder of the course time, together with a considerable amount of homework, is planned to cover a progressive series of exercises in technical writing, leading to the production, individually and in small syndicates, of 'copy' for complete technical publications of various types. Such practical work will include the criticizing, amending, redrafting and rearranging of examples of unsatisfactory technical writing.

Turning now to remuneration in the field of technical writing, there are naturally extremely wide variations—due principally to the differences in skill called for on the part of practitioners, and to a very minor extent, on geographical location. In general, it would be true to say that at the present moment rewards follow closely the trend of remuneration for technical and scientific work in industry and research. For instance, a trainee technical author (or 'writer') in industry may earn from £600 to £900 p.a., depending on his ability and location. A trained technical author, on the other hand, may average from £850 to £1,200 p.a., whilst a section leader or technical publications manager can reach £1,500 or more, in certain cases.

Technical journalists frequently start at around £600–£700 p.a., the figure rising to £1,000–£1,100 p.a. as more skill is obtained. Those who reach the editorial plane, however, can expect salaries of the order of £1,500 p.a., with markedly improved prospects on reaching the editor's chair on a substantial technical journal.

Advertising copywriters in the technical field can sometimes command higher salary levels than those already mentioned, starting, in the case of an entrant with an Ordinary National Certificate in Engineering, at around £750 p.a., and rising, when fully trained, to £1,000. As further experience is gained the salary level may easily rise to £1,750 p.a., or considerably more, for tip-top men.

The remuneration for report-writers varies greatly from firm to firm (as well as geographically), and there are many who are in the £600–£750 p.a. class, with little prospect of improvement. On the other hand, those in the more highly paid areas or concerns can reach £1,250 p.a., with corresponding prospects as the work grows in volume and complexity.

There are many opportunities (for those who are qualified) in the various departments of technical writing. Quite apart from the authors of technical text-books, whom we must necessarily leave out of our calculations for the moment, there is a steady demand for at least 150 new well-trained authors each year in industry. This number would only make up the natural 'wastage', and not provide any 'spares' to cover for the development of new mechanisms, most of which create an immediate demand for authorship as soon as they are invented. Then there will probably be another hundred (or so) report-writers wanted each year, plus sixty to seventy really highly-trained technical advertisement copywriters. In the technical journalistic field, there could possibly be new openings for yet another forty to fifty good men—a total of, perhaps, some 360–400 new persons, skilled in the art of technical writing—and this, of course, altogether independent of the authors of technical text-books.

Prospects, generally, in the technical writing field are good. There are so few persons who are really equipped by knowledge and experience to take the higher posts of management and development within the field, that it is extremely difficult to find enough of them, men or women, to fill these posts. Training will help to bridge the gap in time, but the rate would be materially accelerated if more could be done to make known to the younger generation the prospects for the future. It would seem that qualified men or women will always be able to find themselves niches somewhere in the scheme of things, where their own particular specialist knowledge, *plus* writing ability, can be turned to the good advantage of the nation as a whole.

INTRODUCTION

The Chairman for the morning session, Mr F. W. ROGERS (General Editor, The Aluminium Development Association), said that Lord Crook was unfortunately not able to take the Chair because of ill-health but he had sent his regards and good wishes for the Conference. He proposed to ask the Secretary, in the name of the Conference, to send Lord Crook an expression of sympathy and good wishes for a speedy recovery.

On behalf of Aslib, the British Association of Industrial Editors, the North-Western Polytechnic, and the Presentation of Technical Information Group, who had organized the Conference, he welcomed all present. He would not attempt, he said, to give the introduction which Lord Crook was to have given on the general principles of communication; the terms of reference were set by the subjects of the two papers which were about to be given. He would like, however, to enunciate two principles which might be borne in mind, certainly at the morning session. They might also have some bearing on the afternoon session.

The first was that the written word was a medium—one medium—for conveying facts, hypotheses, conclusions and criticism. In more homely language, one might say that it was the means of conveying 'what is, what may be, what it comes to, and what X thinks about it'. The written word was so subtle, so capable of small nuances of expression, that it was a particular responsibility of writers and editors to make an absolutely sharp distinction between these four items in every sentence and phrase that they wrote and edited.

The second principle was that the word had to be subordinated to the message it was intended to convey, but—it would be agreed—subordinated in the manner in which the motor-car could be said to be subordinated to its passengers; subordinate in its function but perfect in its performance.

In the afternoon the Chair was taken by Mr F. B. ROBERTS (Editor, *Engineering*). He introduced the speakers and also contributed the following summary of the Conference proceedings, with special reference to the discussions which had followed the morning and afternoon papers.

SUMMING UP

I have the task, as you are probably aware, of summing up. I do not intend to sum up in the ordinary sense of the word. The papers and discussions have naturally raised a great many points, and it would be impossible to summarize them. But I do want to mention a few points which seem to me to be significant, and maybe you will find something to think about in them.

First of all, it is clear from your programmes that we have here representatives of Aslib, the British Association of Industrial Editors, the North-Western Polytechnic, and the Presentation of Technical Information Group. This is a very important coming together of these four bodies. It is a curious fact that, apart from the circumstance that a number of people are members of Aslib and P.T.I., the two worlds have tended to be rather separate in the past. And since one represents the producers of information and the other the users, it is clear that repeated co-operation of this kind in the future offers scope.

Complaints have been voiced on several occasions about the secrecy of industrial firms. It certainly exists, but I think we ought first to take the beam out of our own eyes. It is a fact that if we try to study the theory of technical journals, or that form of communication, there is extraordinarily little (with the exception of a recent book of which Mr Godfrey was joint author) that goes into the finer points that one can apply to one's own particular circumstances.

This is not because people do not know the art of communicating in this way, but because they are not prepared to discuss it with their competitors. I hold that against myself as much as anyone else; and I hope this sort of conference will get over that barrier to some extent. We can contribute something, but at the same time we shall take away a lot with us.

When we are dealing, as many of us are, with a particular serial publication or medium like a technical journal—apart from all the things we have considered about the individual articles we are preparing for the press—I think the most important point, one we have not touched on very much, is the need to establish, if it is not there already, the reputation or prestige of the medium. I am sure you will agree that the same five hundred words, shall we say, in one journal will have a certain power to reach people and to move them or make them act differently, but in another journal will have much less or much more power. If you are the editor of a commercial publication, you have to bear that in mind. You are not only giving the reader an article on some important development. You are also, at the same time, helping to continue or develop or build up the reputation and prestige of your journal. On the success you achieve in that part of your work will depend ultimately the number of people who look at your next issue.

Another matter of great interest to me personally is titles and headings. The job a mere three or four or five words have to do when they are in a title is really quite frightening. Take a newspaper—*The Times*, because it has such a wide variety of material, or any good-class newspaper. Such a newspaper—provided the item has news value—can deal with almost any subject under the sun. Therefore, those few words of the heading have to narrow down the reader's outlook or interest from the whole field of human knowledge and activity to some particular event or development or news. It seems to me a tremendous responsibility to place on so few words. I sympathize with Mr Godfrey and others who suggest one should not change the title of an article when the author has chosen it. But really you have to do something. One can, of course, if there is time, show it to the author. Suppose you are editing a specialized or even a fairly general journal. Suppose it is a technical journal which covers a certain field. The reader knows or hopes that what he is given will be within that field. The mere fact that something is published in the journal immediately narrows down the subject matter to a small part of the whole of human knowledge and experience.

The job of the editor on titles and headings then, as it seems to me, is to narrow down, to define the subject, in relation to the subject matter of the journal as a whole. Only the editor and not, generally speaking, the author (unless he is a staff writer) can make the decision.

There is a distinction worth drawing between technical writing which people have to read and the other kind which is not compulsory. There is the Army Council Instruction type of writing which communicates instructions, and there is the article that attempts to attract the attention of the readers. As an editor dealing with the latter kind, I hope the people who write and publish the stuff that must be read will not use too many of the tricks of the trade. It leaves so few for us to use!

Something has been said about the words 'writer' and 'author'. It seems to me that 'author' should be reserved for the person who writes up his own work, his research or whatever it may be, in a paper to a learned society or an article in a technical journal. He is the author of the work. On the other hand, most of us are writers, whether we are technical journalists or producers of advertising copy. We ought not to call ourselves authors. This is reasonable, and it is the general practice with institution and learned society papers to refer to the author. Certain institutions give him the dignity of a capital A. I think they ought to be authors, and the rest of us writers, but this is a personal opinion, and clearly you might hold different views.

It has also been said that too much material is published, and this is true in the sense in which it is put. But the plain fact is that a lot is going on in the world today. We are all users or readers, and the only solution is to be quite ruthless and say, 'I am going to look at this and that and not bother with the other things.' I do not think you need worry, because any new development or invention of importance is represented and rehashed many times over, so you will see it sooner or later.

It has been suggested that perhaps the time is ripe for a P.T.I. journal. I do not know whether anyone has an eye to business or whether a commercial house will do it; but there is clearly sufficient interest in the subject. Whether it could be made a paying proposition I do not know.

House style has been mentioned. You have been told why it is necessary. Another reason for it is to save editors and other technical writers (not authors) from what are usually fiddling details. If you do have a house style manual, your staff do not have constantly to ask questions about style. You can dispense with these relatively minor matters and leave yourself and other people free for the really creative job of writing. If anyone tries to make you change your mind, you have to be quite stubborn and to say, 'I'm sorry. I've made up my mind and there it is.' Occasionally you can change something, but it has many repercussions; it takes a long time to assimilate a change in house style.

We have not heard much of the suggestion that practising scientists and engineers are not very good writers. I think this is a gross over-simplification. Many potential writers are smothered at birth. They come on to an editorial staff and they are discouraged because they do not immediately fall into the work. A man writes his first piece—maybe a note of some sort. This is terribly important to him. He may not realize it consciously but to him it is terribly important. He may wonder whether it is going to be accepted as it stands, which is extremely unlikely, or whether it is going to be heavily subbed. If he is not handled tactfully at that stage and allowed to criticize other people's writing as well as have his own criticized, he may very quickly, after the first few efforts, come to the conclusion that he is not a born writer and that he will give it up and not bother.

On the other hand, most scientists and engineers, given the right conditions and encouragement in the first early stages, could become very effective writers in their own field. On that point, the organizers of the City and Guilds course which Major Hockley has described to us in a very interesting way are, I am sure, aware of the dangers inherent in the system. I must not criticize it too much, because I was on the committee involved in it. But one of the things that worries me about that course is that it is the practice in Fleet Street journalism to come up through the rather rough and ready method of apprenticeship and acquire a flair for it. I feel that the City and Guilds course might kill and deaden that flair. People who have done the course may produce workmanlike jobs; you may not be able to pick a hole in their writing, but somehow they may fail to communicate. I am sure, however, that this difficulty has been foreseen and will be seen by the people responsible for the teaching in this course.

It is difficult to get scientists and engineers to write up their own work, we are told. I think it is to a large extent our fault, and I mean the fault of professional technical writers. It is our fault because we so seldom manage to evolve a successful and repeatable technique of writing. Perhaps the best way to illustrate what I mean is by giving an example.

The best example I can think of is 'Letters to *Nature*'. The man who thought up and implemented that hit on an extremely workable and usable solution, it seems to me. The proof is quite obvious from the large number of scientists and other people who have used it.

It is our job as far as possible to evolve some technique appropriate to our particular problems, a technique that other people can use without too much trouble.

To sum up my own points, there must be, and there are already, specialist technical writers. Let us have more discussion of our techniques, our problems of communication! But for heaven's sake do not let us build up a kind of mystique and make the non-professional writer, whether he be working scientist or engineer, feel that the business of technical writing has become so specialized that he cannot do it. This is quite a wrong impression and quite unnecessary. It is our job not only to be effective writers, editors and communicators but also to see that practising scientists, engineers and others are encouraged to write themselves. We can always do a bit of work on their manuscripts afterwards, but do not let us give them the impression that only we, the professional people, can do this work.

SELECTIONS FROM THE RECENT LITERATURE

Books and Pamphlets

AMERICAN LIBRARY ASSOCIATION. Public Library Association
Plans for six public library buildings . . .; edited by Ruth M. White. Chicago, A.L.A., 1959. [6], 58 pp., diagrs. (Public Library Reporter—No. 8.) $2.25.

BEST, JOHN W.
Research in education. Englewood Cliffs, N. J., Prentice-Hall, 1959. xi, 320 pp. 52*s*.

BOURNE, CHARLES P.
Bibliography on the mechanization of information retrieval. Menlo Park, California, Stanford Research Institute, 1958. 22 pp. gr.

BRITISH IRON AND STEEL RESEARCH ASSOCIATION. Operational Research Department
Conference on computers in the iron and steel industry. London, BISRA, 1959. 63 pp. diagrs. 20*s*.

CLOVER, VERNON T.
Business research: basic principles and techniques. Lubbock, Texas, Rodgers Litho, Inc., 1958. vi, 394 pp. $5.75.

COMPUTER CONSULTANTS LTD
The British commercial computer digest. Dolgelly, Computer Consultants Ltd., 1959. various paging. 63*s*.

EICHNER, HANS, *and* HEIN, HANS
Reading German for scientists. London, Chapman and Hall, 1959. xi, 207 pp. 30*s*.

FRANK, OTTO
Literaturverzeichnis zur Dokumentation 1955 bis 1958. Stuttgart, Dorotheen-Verlag, 1959. 144 pp. (Handbuch der Klassifikation, Heft 11.) DM.10.

*FRICK, BERTHA MARGARET
Sears list of subject headings . . . 8th ed. New York, H. W. Wilson, 1959. 610 pp. $5.

GOODMAN, L. LANDON
Automation today and tomorrow: a technical survey of current progress. London, Iota Services, 1959. vi, 158, pp. 40*s*.

HERTFORDSHIRE COUNTY COUNCIL. Technical Library Service
Modern copying techniques for the drawing office. Hatfield, the Council, 1959. 51 pp., illus. 6*s*.

HICKS, TYLER G.
Successful technical writing: technical articles, papers, reports, instruction and training manuals, and books. New York . . . London, McGraw-Hill, 1959. x, 294 pp. diagrs. $5.50.

KAISER, FRANCES E., *editor*
Translators and translations: services and sources. New York, Special Libraries Association, 1959. iv, 60 pp. $2.50.

KENNEY, BRIGITTE L.
Co-operative centralized processing: a report of the establishment and first year of operation of the Southwest Missouri Library Service, Inc. Chicago, A.L.A., 1959. ix, 98 pp. $2.25.

*LEGG, L. G. WICKHAM, *and* WILLIAMS, E. T., *editors*
The dictionary of national biography, 1941–1950., London, O.U.P., 1959. xxi, 1031 pp. 5 *gns*.

MAGNER, THOMAS F.
Manual of scientific Russian. Minneapolis, Burgess Publishing Co.; London, Mayflower Press, 1959. iii, 101 pp. 37*s*.

NATIONAL MACHINE ACCOUNTANTS ASSOCIATION
Data processing: 1958 proceedings; Charles H. Johnson, editor. Paris, Illinois, N.M.A.A., 1958. 412 pp., diagrs. $10.

NATIONAL MICROFILM ASSOCIATION
Guide to microreproduction equipment; edited by Hubbard W. Ballou. Annapolis, N.M.A., 1959. 438 pp., illus. gr.

NATIONAL SCIENCE FOUNDATION
Proceedings of a Conference on Research and Development and its Impact on the Economy. Washington, National Science Foundation, 1958. v, 223 pp., diagrs. $1.25.

*THE PENROSE annual: a review of the graphic arts. Vol. 53; edited by Allan Delafons. London, Lund Humphries, 1959. xxxviii, 202 pp. 42*s*.

SHAFFER, KENNETH R.
Twenty-five short cases in library administration. Hamden, Conn., Shoe String Press, 1959. 135 pp. (Case studies in library administration—series 1.) $3.50.

*SMITH, ROGER C.
Guide to the literature of the zoological sciences. 5th ed. Minneapolis, Burgess Publishing Co., 1958. xi, 203 pp. $3.50.

*SPECIAL LIBRARIES ASSOCIATION
SLA loan collection of classification schemes and subject heading lists . . . 4th revised ed. New York, the Association, 1959. v, 51 pp. $2.50.

TAUBE, MORTIMER, *and* WOOSTER, HAROLD, *editors*
Information storage and retrieval: theory, systems, and devices. New York, Columbia U.P.; London, O.U.P., 1959. xi, 228 pp. (Columbia University Studies in Library Service, no. 10.) $6 or 48*s*.

UNESCO
An international bibliography of technical and vocational education. Paris, Unesco, 1959. 72 pp. 5*s*.

RECENT LITERATURE

UNESCO
Statistiques sur les bibliothèques. Paris, Unesco, [1959]. 134 pp. (Statistical reports and studies.) 7*s*. 6*d*.

*UNITED NATIONS. STATISTICAL OFFICE
Statistical yearbook, 1958. 10th issue. New York, United Nations, 1958. 611 pp. 57*s*.

UNITED STATES. Department of Commerce. *Patent Office*
A notation system for transliterating technical and scientific texts for use in data processing systems. Washington, the Department, 1959. 31 pp. (Patent Office Research and Development Reports: no. 15.) 25*c*.

UNITED STATES. National Library of Medicine. *Reference Section*
Scientific translations: a guide to sources and services; compiled by Sheila M. Parker, revised by Rosemary Roberts and Miriam Hawkins. Washington, U.S. Department of Health, Education and Welfare 1959. v, 19 pp. 15*c*.

UNITED STATES National Science Foundation. *Office of Scientific Information*
Current research and development in scientific documentation. No. 4. Washington, the Foundation, 1959. viii, 85 pp. 15*c*.

WASSERMAN, PAUL
Measurement and evaluation of organizational performance: an annotated bibliography. New York, Cornell University Graduate School of Business and Public Administration, 1959. vi, 110 pp. $3.75.

Articles and Papers

ADMINISTRATION of technical information groups. *Industrial and Engineering Chemistry*, vol. 51, no. 3, March 1959, pp. 48–61.

ALLEN, ALVIN
Technical writing in Great Britain. *STWE Review*, vol. 6, no. 2, April 1959, pp. 12–13.

BACH, HARRY
Bibliographical essay on the history of scholarly libraries in the United States, 1800 to the present. *University of Illinois Library School, Occasional Papers*, no. 54, January 1959. 24 pp.

BARTLE, ROBERT
Research work and its presentation. *The Manchester Review*, vol. 8, Spring 1959, pp. 285–288.

BEYERLY, ELIZABETH
Acquisition methods and sources of Soviet medical publications. *Bulletin of the Medical Library Association*, vol. 47, no. 2, April 1959, pp. 124–131.

CITROEN, I. J.
The translation of texts dealing with applied science: basic requirements for the production of satisfactory translations. *Babel*, vol. 5, no. 1, March 1959, pp. 30–35.

DAVIS, RICHARD ALBAN
SLA Translation Center. *Illinois Libraries*, vol. 41, no. 6, June 1959, pp. 472–476.

DUDLEY, EDWARD
Libraries in the U.S.S.R. *Library Association Record*, vol. 61, no. 5, May 1959, pp. 111–115.

ELLIS, SHIRLEY
A thousand words about the slide. *ALA Bulletin*, vol. 53, no. 6, June 1959, pp. 529–532.

ENGLEFIELD, A. W.
Sources of technical information: where to find the answers. *Electrical Supervisor*, March 1959, pp. 59–61.

ENGLISH to Braille translation on IBM 704. *Data Processing Digest*, vol. 5, no. 6, June 1959, pp. 8–9.

FOSKETT, D. J.
Industrial librarians and the Library Association. *Librarian and Book World*, vol. 48, no. 1, January–February 1959, pp. 7–10.

HAGGER, J.
Current trends in classification. *The Abstractor*, vol. 3, no. 1, March 1959, pp. 1–3.

JACKSON, EUGENE B.
Samarbejde fremmer! [The work of AGARD Documentation Committee.] *Library Journal*, vol. 84, no. 9, 1 May 1959, pp. 1420–1421.

KINGERY, ROBERT E.
New library technology. *Library Journal*, vol. 84, no. 9, 1 May 1959, pp. 1387–1391.

KLEWITZ, OTTO VON
Innerbetriebliche Informationstechnik. *Nachrichten für Dokumentation*, vol. 10, no. 1, March 1959, pp. 28–34.

LINDENMEYER, HAROLD F.
What does the Patent Office Scientific Library have to offer the chemist? *Journal of the Patent Office Society*, vol. 36, July 1954, pp. 463–81.

MARSHALLSAY, DIANA M.
A Parliamentary papers library. *The Library World*, vol. 60, no. 707, May 1959, pp. 235–240.

MOOKERJEE, S.
Special libraries: our problems. *IASLIC Bulletin*, vol. 4, no. 1, March 1959, pp. 14–18.

OFFICE MANAGEMENT ASSOCIATION. Electronic Data Processing Committee
Electronic data processing, 6. Case study: investigating the possibilities. *Office Management*, vol. 13, no. 5, May 1959, pp. 173–176.

OPLER, ASCHER
On the automatic manipulation of representations of chemical structures. *American Documentation*, vol. 10, no. 2, April 1959, pp. 130–134.

PHILLIPS, W. HOWARD
Dewey Decimal Classification, 16th ed.: an appraisal. *The Library World*, vol. 60, no. 707, May 1959, pp. 225–230.

RICHMOND, PHYLLIS ALLEN
Cats: an example of concealed classification in subject headings. *Library Resources and Technical Services,* vol. 3, no. 2, Spring 1959, pp. 102–112.

ROBINSON, E. G.
A pattern of forms. *The Manager,* vol. 27, no. 4, April 1959, pp. 254–255.

SCHEERER, GEORGE
Card catalog arrangement. *Library Resources and Technical Services,* vol. 3, no. 2, Spring 1959, pp. 140–145.

SHERROD, JOHN
The technical report in the Library of Congress. *Library of Congress Quarterly Journal of Current Acquisitions,* vol. 16, no. 2, February 1959, pp. 47–50.

Space problems of large (general) research libraries: report of a meeting. *College and Research Libraries,* vol. 20, no. 3, May 1959, pp. 217–220.

TAUBER, MAURICE F.
Subject headings and codes. *Library Resources and Technical Services,* vol. 3, no. 2, Spring 1959, pp. 97–102.

TEITGE, HANS-ERICH
Einige Probleme der mechanischen Ordnung, *Zentralblatt für Bibliothekswesen,* vol. 72, no. 5–6, April 1959, pp. 299–308.

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ASLIB CALENDAR

OCTOBER

WEDNESDAY 21st. Midlands Branch meeting. 'The Washington conference', by J. Roland Smith.

WEDNESDAY 28th. Film Production Librarians' Group meeting. 'The development of the Rank group', by J. Morrison.

THURSDAY 29th. Aeronautical Group meeting. See paragraph below.

NOVEMBER

TUESDAY 3rd. Soviet literature course commences. See paragraph below.

THURSDAY 5th. Furniture Group meeting. Consumer research, by Miss E. Roberts and Miss C. Clough.

THURSDAY 12th. Winter meeting. 'The future of information work', by J. E. L. Farradane.

WEDNESDAY 18th. Engineering Group visit to Whitefriars Glassworks.

TUESDAY 24th. Midlands Branch meeting. 'The Aslib research programme', by C. W. Hanson.

WEDNESDAY 25th. Film Production Librarians Group meeting. 'The search for cinema', by L. O'Leary.

1960

JANUARY

TUESDAY 19th. Midlands Branch meeting. 'The City of Birmingham Information Department', by A. Hughes.

APRIL

FRIDAY 8th – SUNDAY 10th. Aeronautical Group Conference at Cranfield.

MAY

FRIDAY 6th – SUNDAY 8th. Electronics Group conference.

Aslib Winter Programme

A programme of winter activities is being prepared which is intended to include, for each month, a conference, a study course or series of lectures, and an evening meeting. The Soviet literature course which commences on 3rd November will be held at Aslib on Tuesday evenings for seven weeks. The syllabus will be similar to that of previous courses on the handling of Soviet and East European material and the lecturer will be Mr Anthony Thompson, M.A., F.L.A. Details of other arrangements for November and December are now available from Aslib, 3 Belgrave Square, London, S.W.1. Items will also be announced in the Aslib Calendar as early as possible.

Income Tax Relief on Aslib Subscriptions

Personal members of Aslib will be pleased to know that they may now claim income tax relief on their subscriptions to Aslib under Section 16 of the Finance Act, 1958. The circumstances under which personal members may claim relief are set out as follows:

'Commencing with the year to 5th April 1959, a member who is assessable to income tax under Schedule E in respect of the emoluments of an office or employment is entitled to a deduction from those emoluments of the whole of the annual subscription which is due and payable by him to the society in the income tax year provided that:

a. the subscription is defrayed out of the emoluments of the office or employment, *and*

b. the activities of the society so far as they are directed to all or any of the following objects—

  i. the advancement or spreading of knowledge (whether generally or among persons belonging to the same or similar professions or occupying the same or similar positions);

  ii. the maintenance or improvement of standards of conduct and competence among the members of any profession;

  iii. the indemnification or protection of members of any profession against claims in respect of liabilities incurred by them in the exercise of their profession;

are relevant to the office or employment, that is to say, the performance of the duties of the office or employment is directly affected by the knowledge concerned or involves the exercise of the profession concerned.

A member of the society who is entitled to the relief should apply to his tax office as soon as possible for form P358 on which to make a claim for the relief due to him.'

Exhibition of Photocopying Equipment

A number of members have already visited the exhibition being held at Aslib, and it is hoped that many more will do so before it closes on 30th November. Six machines, considered to be particularly suited to the needs of special libraries, have been selected for inspection and trial. The exhibition is open from Monday to Friday each week between 11.30 a.m. and 1 p.m. and between 2.30 and 5.30 p.m. Members who wish to come at any other time are asked to make an appointment beforehand. It is hoped to follow the current exhibition with another, to commence in January 1960, on the subject of binding methods and materials for books and periodicals in special libraries.

Aeronautical Group

A winter meeting will be held at 10.30 a.m. on Thursday 29th October at the Ministry of Supply Technical Information and Library Services (T.I.L.), First Avenue House, High Holborn, London, W.C.1. The meeting will open with coffee and an introductory talk by Miss E. H. Ridler, Head of T.I.L., followed by a tour of T.I.L. during which representatives from T.I.L. at Mottingham, as well as staff of First Avenue House, will be available to discuss problems and requirements. Members are asked to make their own arrangements for lunch. The afternoon session will start at 2.30 in the Cinema, Ministry of Supply, St. Giles Court, St. Giles High Street, London, W.C.2, when Mr R. C. Thorne of the Royal Aircraft Establishment will give a talk on 'Supersonic transport aircraft'.

Those wishing to attend this meeting should inform the Hon. Secretary, T. M. Aitchison, English Electric Aviation Ltd, The Airport, Luton, Beds (Telephone Luton 5800, extn 194) by Tuesday 20th October.

R.P.S. Bibliography Service

A punch card bibliography of photographic applications in medical and biological sciences has been established by the Medical Group, The Royal Photographic Society of Great Britain. Each card carries an abstract of an original article and up to 400 new cards are added annually, the present total being well over 2000 abstracts classified under subject headings. The service is available, free of charge, to all bona fide inquirers. Detailed requests for references to the literature should be addressed to the Hon. Librarian, J. A. Fairfax-Fozzard, M.A., F.R.P.S., The School of Anatomy, The University, Cambridge.

BIM Conference

The British Institute of Management National Conference will be held at Harrogate from Thursday 17th to Saturday 19th November. Other items included in the BIM winter programme are a quicker reading course and several communication seminars. Further details and programme can be obtained on application to the Conference Secretary, BIM, 80 Fetter Lane, London, E.C.4.

British Standards Institution Annual Report

British Standards Institution has recently published its report for the year ended 31st March 1959. The general report states that, although the number of new standards published has dropped slightly, there has been a sharp increase in new projects to be undertaken in the engineering, building, and chemical divisions, and that the range of subjects is also increasing. British Standards Institution *Annual Report 1958–9* is supplied free to all subscribing members of BSI and is available to non-members at 7*s*. 6*d*. per copy from British Standards Institution, British Standards House, 2 Park Street, London, W.1.

Library Telex Directory

In order to encourage the use of Telex for inter-library communication, the Research Sub-committee of the Library Association's Reference, Special, and Information Section has undertaken to compile a directory of libraries with access to Telex. As a first step, the Sub-committee has drawn up a list of Aslib members with access to Telex by comparing the *Aslib Year Book 1958–1959* with the *United Kingdom Telex Directory, October 1958*. A questionnaire on Telex facilities is now being sent to these libraries. However, it is realized that new members of Aslib with Telex facilities and also existing members who have recently acquired such facilities may wish to be included in Library Telex directory. These organizations are invited to send details of their Telex address to: J. C. Sharp, F.L.A., Reference Library, Birmingham Public Library, Central Library, Birmingham 1.

Special Libraries Association

The appointment of Mr Bill M. Woods as Executive Secretary of the Special Libraries Association, in succession to Miss Marian E. Lucius, was announced at the Fiftieth Anniversary Convention of SLA. He took up his duties in August. Mr Woods has been a member of SLA since 1947 and has served on its Advisory Council, Translations Center Committee, and Nominating Committee. For the past year he has been head of the Processing Section, Map Division, of Library of Congress and for ten years previously was a librarian and faculty member of the University of Illinois. He has also held various posts in the libraries of the University of Nebraska and the Peru (Nebraska) State Teachers College.

Picture Sources: an introductory list

The Special Libraries Association has announced the publication of a directory to picture sources in the United States and Canada which should be a useful tool for those concerned with visual communications. Nearly four hundred sources are listed, each with address, telephone number, size of collection, types of material included, subjects and dates covered, and conditions of use. Entries are arranged under major subject headings, each with a general introduction. More detailed subject and source indexes are also provided. *Picture sources: an introductory list* is available from Special Libraries Association, 31 East 10th Street, New York 3, N.Y., price $3.50 (about 26*s*.) per copy.

American Classification Institute

The University of Illinois Division of University Extension and the Graduate School of Library Science have announced an institute on the 'Role of Classification in the Modern American Library', to be held from Sunday 1st to Wednesday 4th November at Robert Allerton Park, Monticello, Illinois, U.S.A. Among the topics planned for presentation and discussion are classification as seen by the administrator, development of classification in America, classified catalogues in research libraries, reader interest grouping in public libraries, the Dewey system, Library of Congress classification, and classification in special libraries. Further information available from the Institute Supervisor, Division of University Extension, 116b Illini Hall, Champaign, Illinois.

BINDING TIME FOR PERIODICALS

C. W. HANSON

Head of Research Department, Aslib

MANY special librarians have complained that it takes an inconveniently long time to get sets of periodicals bound, but no precise data about the time taken was available. A small investigation was therefore undertaken by the Aslib Research Department to provide such data.

Most of the complaints came from special libraries in industrial and commercial organizations, and the investigation was confined to the experience of such libraries, which spend relatively little on binding: a survey carried out previously by Aslib showed that three-quarters of a sample of fifty-two of these libraries, if they had anything bound, each spent between £25 and £250 per annum, almost entirely on binding periodicals. In the present investigation sixty-four industrial members of Aslib were asked to indicate how long it took to get their last two batches of material bound by giving the date the material left their premises and the date the bound volumes were received back. They were also asked to state the number of volumes in each batch, the name of the binder, and their approximate annual expenditure on binding.

RESULTS

Forty-two organizations provided usable data covering eighty-five batches of material. Fifteen of the responding libraries were located in London and the south-east, and nine in the north-west. Each of the other areas of the country were represented by from one to four libraries. Table 1 shows the annual expenditure on binding of all except one of the responding libraries.

TABLE 1 ANNUAL EXPENDITURE ON BINDING BY REPORTING LIBRARIES

£ p.a.	below 75	76–150	151–225	226–300	301–375	376–450	above 450
No. of libraries Total 41	15	15	6	1	1	2	1

The median expenditure was £100 per annum.

The total number of days between the date on which the unbound material was collected by the binder (or dispatched to him) and the date on which the bound material was received back in the library (both dates inclusive) is shown in Table 2. These figures represent the time during which the material was not available in the library because it had been sent out for binding.

The figures in Table 2 give an allover picture, but do not reveal any differences between the performances of the individual binders serving the reporting libraries, nor whether the size of the batch, the season of the year, and the location of the binder affected the speed of service. Each of these aspects was examined in turn. In order to make comparisons valid, Sundays and public holidays were subtracted from the total time for each batch, leaving figures more nearly equivalent to working days.

TABLE 2 TIME MATERIAL FOR BINDING WAS AWAY FROM LIBRARY

Time away	Less than 1 month (30 days)	1–2 months (31–61 days)	2–3 months (62–92 days)	3–4 months (93–122 days)	More than 4 months (122 days)
No. of batches Total 85	8	26	34	13	4

The arithmetic average for the eighty-five batches was sixty-nine days, and the median sixty-five days. Ninety per cent of the batches were away from the library for more than one month; 60 per cent for more than two months; 20 per cent for more than three months.

Comparison of Binders

The forty-two libraries reporting used between them twenty-three binders. The figures reported appeared to reveal marked differences between binders—e.g. the slowest took six times as long as the fastest, and the six slowest took on an average more than twice as long as the six fastest; but because the few (two or three) batches reported for some binders may have been unrepresentative of those binders' normal service, it is not justifiable to draw firm conclusions from the data.

Size of Batch

The median size of batches was twenty-four volumes. The size of a batch appeared to have no effect on speed of service: the median time for seventy-one batches of up to fifty volumes each, and for eleven batches of between fifty-one and a hundred and ninety-one volumes each, was fifty-three *working days* in each case.

Season

Three-quarters of the batches were sent to the binder in the first six months of the year. The season of the year appeared to have no effect on speed of binding: the median time for binding was fifty-five *working days* for both the first six months of the year and the second six months.

Location of Binder

More than three-quarters of the batches reported on were sent to binders in London and the south-east, East and West Ridings, and the north-west. There was virtually no difference in the median times (53–4 *working days*) in these three areas. Median times were longer in the south, Midlands and north Midlands (71–81 *working days*), and shorter in the north, and in Scotland (30–32 *working days*); but the number of batches reported on for these areas was too small to justify meaningful comparisons.

Comments of Librarians

Comments made by librarians when returning the questionnaire forms included the following: binding service was quicker now than it had been a few years ago; some binders had bound and returned one or two urgently needed volumes especially quickly (1–4 weeks) and without extra charge; the first order to a binder was executed more quickly than succeeding orders; the binder's arrangements for collection and delivery were a main factor in speed of service. Generally, the comments suggested that a maximum of one month between collection and delivery was desirable, two months the best that could be hoped for at present, and more than two months unacceptable and a cause of serious inconvenience to library users.

CONCLUSIONS

The investigation shows that it is possible to have sets of periodicals bound and back in the library within a month, but that 90 per cent of the batches reported on took longer—60 per cent of them more than twice as long, and 20 per cent more than three times as long.

These results are being brought to the notice of bookbinders with a view to exploring ways of providing special libraries with a faster binding service.

TECHNICAL INFORMATION SERVICES IN GERMANY, LUXEMBOURG, BELGIUM, AND HOLLAND*

R. SEWELL
Information Officer, The United Steel Companies Ltd

THE German Iron and Steel Institute in Düsseldorf invited me to spend three weeks visiting technical information services on the Continent. Three aims were kept in view: to examine methods of operating information services, to study the attitude of industrial management and research toward technical information, to contact some of the leading people in the technical information field in Western Europe. Twenty-two technical information organizations are described.

It is evident that the Germans and Dutch, particularly, have taken great trouble to recruit highly qualified staff and to install the best possible equipment for their technical information services. This attitude could best be summed up by the maxim of the German Board for the Rationalization of National Economy (the R.K.W.), in Frankfurt-am-Main: 'First inform, then produce'. The concept in these countries is that information research is vital to scientific research and saves time, money, and duplication of effort. Management and senior staff in Germany and Holland particularly are 'information conscious'. In Belgium this consciousness is not yet so apparent. The large iron and steel group of Arbed in Luxembourg comes much nearer to the German and Dutch attitude toward technical information.

I frequently encountered the conviction in Germany and Holland that the present flood of technical information in its numerous forms can be properly controlled only by specially trained and experienced people. Many technical periodicals continue to increase their annual output—i.e. number of pages per year—of information. The German periodical *Stahl und Eisen* produced just four times as many pages in 1957 as it did in 1948, and last year's output of this journal was 25 per cent higher than it was in 1936.

Apart, however, from the problem of dealing with the increasing *quantity* of technical information, there is an urgent necessity for expert attention to the technical literature. A single striking example of the colossal waste of time and money caused by lack of proper attention to technical literature is the fact that less than one-third of German patent applications is being granted.

The technical information services visited ranged from that of the headquarters of the B.P.M. (Royal Dutch Shell) in The Hague, with its 180 staff and twenty translators employed on records alone and its 1200 subscriptions to technical periodicals, to the small technical libraries of some Belgian research organizations.

Everywhere I encountered the utmost charm and hospitality.

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* Based on a report made after visits in May 1958.

GERMANY

MAX PLANCK INSTITUT FÜR EISENFORSCHUNG, DÜSSELDORF

The Max Planck Institute for Ferrous Metallurgical Research was founded in 1917 for the Verein Deutscher Eisenhüttenleute under the name of the Kaiser Wilhelm Institut für Eisenhüttenforschung. The Institute was organized to engage in pure research untrammelled by current industrial problems. Its first director was Professor Wüst, followed by Professor Körber in 1922. The present director is Franz Wever, who took over control in 1944.

In 1935 the present laboratories were built on a twenty-acre site. Laboratory floor space is about 5500 square yards.

The present total staff is 272, of whom about eighty have scientific qualifications, most of the remainder being candidates for doctorates and engineering degrees, including foreigners.

Income is obtained partly from the Government and partly from industry.

The library here was disappointingly small and was mainly intended to serve the director and section heads in the laboratories. It consisted of the conventional reference books and a small number of periodicals all in a single room.

There was no mechanism for keeping the scientific staff advised of current matters of interest except by leaving current periodicals on view in the library for three weeks. Even the fixed circulation of magazines had been abandoned. Most serious literature searches would involve having recourse to the Verein Deutscher Eisenhüttenleute. A limited card catalogue was kept in relation to the books.

VEREIN DEUTSCHER EISENHÜTTENLEUTE, DÜSSELDORF

The Verein was founded on 4th December 1860 as the Technischer Verein für Eisenhüttenwesen. Its present name dates from 1881.

The official purpose of the Verein is to 'promote technical and scientific work in the iron and steel industry and in the field of associated materials'. Literary activities form a large part of the Verein's work.

At the end of 1957 the V.d.E. had 8500 members, of whom 1100 were foreigners.

Information and Library Services

This library is extremely well equipped and organized. The furniture is all of heavy-gauge metal and in one department they were using Compactus stacks. (These metal stacks close up together into a small space. Opening of the required stack is done electrically by push-button control. Advantages are: fire- and dust-proof, and space-saving.)

The library contained 20,000 books, including bound volumes of transactions and bound periodicals, 55,000 pamphlets (i.e. separate articles and reports), 1,500,000 patents and 800,000 catalogue cards. In 1957 the total number of loans was 68,493 and 1769 photocopies were made; 2530 inquiries were received by the Information Department, of which 582 necessitated the consultation of at least ten sources. Some 575 periodicals were taken, including 247 non-German titles.

Prior to 1947 the books were indexed alphabetically according to author but they are now subject-classified by a decimal system, in addition to being author-indexed, so that there is a division between the two periods. The Verein have never printed a library catalogue because they consider that it would be of only limited value for only a limited period and, in any case, all important books are reviewed every month in *Stahl und Eisen.*

The use of the Verein library is free to all members, only postage and packing costs being charged (the Germans everywhere seemed keen on charging for the cost of packing).

The Bibliographical Information Department was formed in 1922. Its job is to indicate requisite literature by means of bibliographies which are based mainly on the 800,000 catalogue cards in the library. These cards contain short abstracts which are really annotated contents. An interesting point is that each section head at the Verein is responsible for producing these short abstracts from the periodicals of which he is a reader. This job is one of the conditions of his employment. I found, at other places on the Continent, that this was a common arrangement and that quite senior technical people provided the library with abstracts which formed part of the library catalogue. The Verein have twenty-one engineers providing abstracts.

All periodicals are bound and the practice has been to supply photocopies of individual articles or pages, if necessary, though heavy volumes are also sent to borrowers by post. Recently, however, the Verein have been troubled by the German law regarding copyright. This Federal law was passed on 24th June 1955. The gist of it is that the photocopying of articles for use within an organization in industry cannot be regarded as 'copying for personal use' but is a contravention of the copyright law unless permission by the author and/or publisher is obtained. Much complex legal implication is involved in this law. Several large technical libraries in Germany are taking it very seriously. The opinion of several people with whom I spoke was that if German concerns were to take this matter too seriously, they would be at a serious disadvantage compared with other countries who still took the view that it was quite legal to make photocopies for bona fide research purposes and study. A full detailed statement is contained in the German paper by Dr Cord Petersen entitled 'The photocopying of periodicals in industry' published in the *Zeitschrift für Metallkunde*, v.1, 1957.

Patents

The Verein have a complete set of German granted patents (1,500,000) and have all German patent applications at the stage at which they are laid out for inspection prior to being granted (called Auslegeschriften) since 1st January 1957. The patents granted (Patentschriften) are arranged in classes, groups, and sub-groups. Patents can be examined in the reading room for a small fee. No patents are loaned but photocopies are supplied to members at cost.

Publications

Stahl und Eisen, appearing fortnightly since 1881, is the main publication. Cumulative indexes have been published, the last one covering 1941–50. More than 3700 copies were distributed in sixty-six non-German-speaking countries in 1957.

The *Archiv für das Eisenhüttenwesen* is a necessary monthly supplement to *Stahl und Eisen*, its contents being on a rather more theoretical level and directed 'to those specialists with the necessary background to digest it'. The *Archiv* publishes the reports of the Verein's technical committees and an important part of its contents is concerned with the work of the Max Planck Institute which, since 1949, has been co-publisher of the *Archiv*, with the Verein. The *Archiv* presents each individual article in a separately sewn form which enables the subscriber to collect and classify separate reports.

The Verein also publish their well-known handbooks and the now famous series of Stahleisen Books which treat specific fields in detail.

Standardization

Within the framework of the German Standards Institute, the Secretariat of the Verein's Iron and Steel Standardization Committee was formed in 1947. This body develops standards for quality and dimensions for iron and steel and fixes supply conditions. It consults with consumers.

Translations

Most German engineers and scientists can read (though not speak) English. The main problem is with Russian and French. The Verein buy such translations outside and pay high rates compared with ours.

HÜTTENWERK RHEINHAUSEN A.G., WORKS LIBRARY

This is a brand-new exemplary works library which is famous throughout the Ruhr steel industry as an example of social enterprise.

Prior to 1900 there were only a few German public libraries—Friedrich Krupp was therefore very far-sighted when he founded one of the first large industrial libraries in Essen in 1899 to 'educate and entertain' his workers. In 1907 the Krupp family privately financed a works library at its Rheinhausen plant. This library began with 6000 books in a wooden building on the road leading to the works entrance. It was the only 'community' library in Rheinhausen. In that first year of 1907 the number of loans was 43,000. In 1914 the loans numbered 80,000 with the stock then at 10,600. The number of registered readers was 2000 (then 25 per cent of the Rheinhausen employees). In 1922 the loans had risen to 112,000 and, in 1938, to 129,347 (book stock then 23,000).

A *technical* library was installed at Rheinhausen in 1926 but was soon transferred from the wooden building there to the Krupp Head Office in Essen. In 1945 the technical library was closed to the public (the workers and their families). Most of the stock had disappeared at the end of the war.

The temporary management of Krupp, in spite of the enormous problems of starting up the works again in 1946, took pains to build up the technical library, starting with a nucleus of 5000 technical books.

In 1955, after the Rheinhausen plant had been 'hived off' from the Krupp group, a new works library was built at Rheinhausen near the works entrance. It was opened in November 1956.

Library

This library, incorporating all the most modern concepts of library buildings, both from a practical and an aesthetic point of view, contained 19,230 books, of which 8234 were fiction plus art and 10,996 non-fiction. These books were housed on the ground floor of the new building, having an area of 3230 square feet. An 860 square feet reading room contains standard reference works in science, dictionaries, five newspapers, and thirty-six magazines. There is also a youth library of 1620 square feet in a basement which is approached down a very artistic staircase from the main library. The youth library contains 4000 volumes.

Additional space includes four working offices for library staff (each 250 square feet), one book repair room (700 square feet), and one stack room for older material (240 square feet). The shelves are of senna wood. There are numerous alcoves with coloured chairs and corner seats to invite the reader to browse.

In the non-fiction department the most popular subjects amongst works personnel are atomic energy, photography, and TV technology.

The library catalogue is based on:

Alphabetical index of authors and subjects mixed.

Decimal subject classification.

Alphabetical index of book titles.

Fiction is at present indexed only in author order but a subject catalogue is now being built up for fiction to help readers.

Catalogue drawers are of senna wood.

HÜTTENWERK RHEINHAUSEN A.G. RESEARCH AND DEVELOPMENT LIBRARY, RHEINHAUSEN

The Rheinhausen Research and Development Department Library, in charge of Dr Prüssmann, occupies three rooms in the new R.D.D. building. It is a relatively small library mainly for the use of the research and development staff (numbering about 120). Dr Prüssmann has one qualified (library qualification and science degree) female assistant and one male assistant who had previous works experience.

Library

The library stock consisted of 9000 books, including bound volumes of periodic transactions, and 250 magazines (titles); 350 loans were made per month. A decimal classification was used for the library catalogue.

Dissemination of Information

No abstracts are diffused by the library. Research and development staff come to examine current periodicals which are displayed in the library for a fortnight before being sent into the laboratories and some of the works departments on a fixed circulation. For instance, they take eight copies of *Stahl und Eisen*, of which five are circulated in the laboratories, one stays in the library for reference, one is sent to the Works Manager's Department and one to the Chief Engineer's Department. Each works department or laboratory section passes round a periodical, each man in the department or section being allowed two days. One person (junior) in each section is responsible for the 'local' circulation. (This latter feature was common practice in Germany. We find it more practical and efficient, in most cases, for the library to control each loan.)

Here again, laboratory section heads were responsible for supplying the library with short abstracts of magazine articles to help build up the library catalogue. It was accepted by the scientists and engineers as part of their duties. I felt that this was a good feature in the case of national research bodies who built up a library catalogue of abstracts to form the basis of their publications—e.g. the Gmelin Institute in Frankfurt—but was perhaps not the most efficient way of using laboratory staff's time in an industrial organization.

The Rheinhausen R.D.D. Library borrowed much material from the main Krupp Library (see next section) in Essen, from the V.D.E. in Düsseldorf, and from many of the Hochschulen.

FRIED. KRUPP HEADQUARTERS LIBRARY, ESSEN

The head of the Krupp technical information services is Dr Tamme. His way of thinking and outlook on technical information services for research, development, and production were essentially practical.

Library

The library stock consisted of 70,000 books and pamphlets of which about 30,000 were in the works on extended loan. Most of the research work is done in Rheinhausen and the main Krupp library in Essen also serves the Rheinhausen Laboratories. The library took 1100 periodicals, about a third of which were received on an exchange basis. The library staff of nineteen included five qualified librarians and ten persons with university or Hochschule degrees in engineering or science.

A UDC classified catalogue was used plus an author index. A great part of this catalogue was formed of ready-made cards containing abstracts of articles supplied by the V.D.M.A. (Verein Deutscher Maschinenbau-Anstalten) to which the Krupp library subscribes. This service to the engineering world is briefly described in the following note:

Verein Deutscher Maschinenbau-Alnstalten (V.D.M.A.), Düsseldorf, Oberkassel.

This service issues 14,000 abstracts of engineering articles each year in the form of a separate card for each abstract. Each card bears the UDC number in addition to the V.D.M.A.'s own classification. A batch of cards is sent to the subscriber each fortnight. Photocopies of original articles are supplied by V.D.M.A. to its subscribers 'at cost'. About 1000 German and foreign engineering periodicals from twenty-one countries are covered. The full subscription is about £8 10*s*. per *month* but separate fields of engineering can be covered from as little as 5 DM (8*s*. 6*d*.) per month. This is an excellent service though its value is limited to German-speaking countries. A similar service is operated from America—Engineering Index Service, New York, which covers 1200 engineering periodicals and produces 25,000 abstracts annually.

Dissemination of Information

The Krupp library not only uses these V.D.M.A. ready-made abstract cards—covering several fields—to form a large part of its central library catalogue, but it also subscribes to six copies of each card in order to send out these extra cards to works departments. This was the nearest approach by any of the German libraries to our system of sending out selected information to selected targets but, in Krupp's case, this unsolicited information covered only engineering and machinery fields and was sent to only a limited number of targets.

In addition to disseminating these engineering abstracts, the Krupp library issues memos to the laboratory and production staffs, drawing their attention to certain magazine articles, but they give only title of the article and source with no abstract. Bibliographies are, however, issued on sufficiently important and large problems, e.g. gas turbines for blowers. Such bibliographies are built up on the basis of the library catalogue cards only and do not include all relevant material mentioned by outside abstracting bulletins which are, as is common practice in Germany, carefully read by specialists in works and laboratories.

The Krupp library also issues a monthly bulletin of library accessions.

R.K.W. (RATIONALISIERUNGSKURATORIUM DER DEUTSCHEN WIRTSCHAFT E.V.), FRANKFURT-AM-MAIN

This organization is known as the R.K.W. and achieved a reputation in pre-war Germany when its head office was in Berlin. Its maxims are 'First inform, then produce' and 'Asking is not a sign of ignorance but of interest in progress'. Its aim is to transform new ideas, experience, and knowledge of processes and applications as quickly as possible into practice. Much time and money are lost even in determining the correct sources of information relating to specific inquiries. Special efforts are made to prevent industry duplicating research and development work. The R.K.W. aims to put the inquirer into contact with the right organization or person to fulfil his requirements or to provide the answers itself. Great importance is attached to following up the inquiry with the customer to see whether further help is required.

Many inquiries can now be answered from already existing information inside the R.K.W. organization. Most of the inquiries come via the O.E.E.C. in Paris and the D.S.I.R. in England but firms also write direct to the R.K.W. A special department handles all German inquiries for information from America. In the period 1951–58 the R.K.W. provided 16,006 answers to German inquiries for information from the U.S.A.

The R.K.W. obtains its income from industry, from the Government, and from the E.P.A. in Paris.

When a certain problem proves to be of nationwide interest—e.g. works numbering systems connected with stock-keeping, distribution of heating costs for large establishments, etc.—the R.K.W. makes up special reports and sells them at 12 DM (£1) each. These reports are revised every three years.

Contacts with fourteen foreign countries are maintained.

Only precisely defined inquiries are encouraged and not vague or general questions. The answers often involve forwarding many catalogues, brochures, and statistical material. Such information is lent to the inquirer for four weeks. Examples of inquiries—filed on punched cards—which I saw included requests for information on packing medical supplies, fixing windows, stock-taking systems, and several works management problems.

The R.K.W. has over five hundred current sources of information and nine regional offices in West Germany. Inquiries are sent to the R.K.W. Informationsdienst, Frankfurt-am-Main, Feldbergstrasse 30.

The total staff of the R.K.W. in Frankfurt is 130, including editors and the Press department who issue the publications mentioned later. The Press and library form a separate department not under the Information Officer. The library is, however, only a small collection of conventional reference books mainly in the economic, engineering, chemistry, and physics field. The specialized information consists of the data built up in answering the thousands of inquiries from industry and all this information is filed in expensive folders fitted with stainless steel spines made by the German firms of Elba and Leitz. In addition, the information staff—divided into specialists for different fields of industry—use freely the scientific and technical libraries of the many and varied organizations in Frankfurt.

Cost of Inquiries

In order to cover the cost of typing, translation, postage, etc., each first inquiry must be accompanied by a remittance of 10 DM (16*s.* 8*d.*). A further charge is made if foreign information sources have to be consulted. Translation costs are also added. Subsequent inquiries from the same firm are cheaper.

Publications

Apart from dealing with inquiries, the R.K.W. issues periodically the following types of information:

Bibliographies on specially important subjects.

Bulletins of information received from one particular country and dealing with various matters important to German economy.

R.K.W. Kurznachrichten. About 4000 annotated titles and sources are issued every ten days to members. (R.K.W. membership fees are based on the sizes of firms—there are no individual members.)

R.K.W. Werksbrief. This reviews major items of information every ten days.

R.K.W. Pressedienst. These are Press releases of examples of important inquiries handled by the R.K.W. Anonymity is, of course, observed in relation to inquiring firms.

BATTELLE MEMORIAL INSTITUTE, FRANKFURT-AM-MAIN

Importance of contract research in Germany

Before 1947 there was apparently no mechanism by which a European manufacturer could have research done by contract as he might have done it in his own research department.

The Frankfurt-am-Main laboratories of Battelle, set up in 1955, are now functioning without operating subsidies. Two of the main objections to the Frankfurt laboratories in the early days were that scientific and industrial secrets might be stolen and that scientists and engineers might be recruited for work in North America.

F. T. Croxton (assistant director in charge of Battelle operations in Europe) estimated that industrial and government research in West Germany costs about 1 per cent of the national income (compared with 1½ per cent in the U.S.A.). The corresponding figure for the United Kingdom is 1.8 per cent. Battelle estimate that West Germany will soon have need of 25 million marks (nearly £2,100,000) worth of *contract* research per annum (the estimated figure for the United Kingdom is £3,500,000).

Organization

The Battelle Institut E.V. is located at Wiesbadenerstrasse, Frankfurt-am-Main, W.13. In charge of the Information Division is Dr Romeiss, a doctor of science with a very practical outlook. The staff, mostly Germans who have had previous industrial or research experience, has increased from nineteen in 1952 to 402 in 1957. Eighty patents were applied for by Battelle's staff in 1957.

The Frankfurt library has about half as many books and takes about a quarter the number of periodicals as does the parent organization in America. In 1957 the library stock consisted of 21,000 books, 5000 pamphlets, and 437 periodicals (titles).

Information and Library Services

One of the major activities of Battelle is the dissemination of technical information and the Institute acts as an information centre in many fields of science. One of its most important services is to issue periodically bibliographies containing critical abstracts of research literature in a specific field.

The Information Division receives 'accounts'—i.e. commissions or orders—direct from clients for literature searches. These accounts are treated with the same respect as the contracts for research work to be carried out. A client must state whether he needs a factual or a critical review of the literature.

Battelle's laboratory staff are accustomed to 'helping themselves' in the library. No abstracts are issued by the library but magazines are given a fixed circulation. The information staff are responsible for informing the specialists of articles of special interest to them. A good deal of such informing is done verbally as, here again, it is the duty of the scientific workers and engineers to come to the Information Division at regular weekly intervals and inform Dr Romeiss of their current projects in so far as they require literature searches to be made or information to be acquired from other contacts.

The library receives a weekly *List of Accounts* (i.e. of contracts for research).

The library catalogue is based on the UDC classification plus an author index. Four qualified scientists are engaged in classification. The usual metal shelving is used with the UDC numbers marked boldly on the ends of each stack. A visible index file is used to control the loan system. A good deal of material is borrowed from other technical libraries in Frankfurt and from technical universities (Hochschulen) in various parts of Germany.

Dr Romeiss was trying out four different types of German microfilm reader but had not yet decided on the best. He mentioned that little use had been made of them in the past year as they preferred to print from the microfilm.

METALLGESELLSCHAFT A.G., FRANKFURT-AM-MAIN

Metallgesellschaft A.G. is a sort of combined trading company and bank. It has part interest in, and owns, several large concerns, including the Lurgi company which it owns outright. In metal trading, it is confined to the non-ferrous field.

The Frankfurt staff (headquarters) is nine hundred and the library staff, headed by Dr Cord Petersen, numbers nine.

Library

The library contained 15,000 books and 400 periodicals. About a third of the stock was permanently out on loan. Due partly to the very varied interests of the company, Dr Petersen found that he had to use a high proportion of literature older than ten years (this contrasts with some libraries where 70 per cent of the material used is less than five years old).

The library stock was classified by the UDC system by three graduate specialists.

The library's main clients are the research and development staff and other technical departments of Metallgesellschaft. Most of the specialists are used to working with library material and are left largely to help themselves in literature searching.

UDC numbers are printed on the spines of all books or vertically half an inch from the spine on pamphlets (since pamphlets are placed upright on the shelves with the bound volumes). The second and third sub-groups of the UDC numbers are printed progressively smaller. A system of diagonal coloured stripes (different colours for the broad subject fields) marked on spines is used to indicate immediately if books are replaced in the incorrect position on the shelves.

Dr Petersen intends to fit the entire library with a type of metal shelving in which a flexible metal cover—rather like that of an old-fashioned roll-top desk—is drawn down over the shelves from top to bottom and is locked at the bottom. These are made by the German firm of Mauser and cost three times as much as open wooden shelves. He had already bought a section of these, and claimed the same advantage as did the V.D.E. for their electrically closing Compactus stacks, viz: fire-proof and dust-proof, though of course they do not save space like the Compactus. They are naturally cheaper than the Compactus.

Dr Petersen surprised me by saying that the library staff do not undertake to make literature or patent searches for the specialists because it was not 'possible to guarantee that the search was 100 per cent complete', since the library staff did not include sufficient subject specialists. I suggested that it might be very helpful in some cases to give a man even a third of the answer he sought so that he could go and make some progress rather than refuse to help him at all just because one could not supply the 100 per cent answer. Dr Petersen, however, repeated that his staff was not sufficiently specialized. I felt that this was another example of German thoroughness exercised to such a degree as actually to impede progress.

Loans are made for one month and an adequate automatic reminder system is used (different coloured cards being used for first and second reminders and for different types of document, e.g. standard, patent, book, etc.).

Patents

Patents in many fields were on standing order from the German Patent Office.

DEUTSCHE GLASTECHNISCHE GESELLSCHAFT, FRANKFURT-AM-MAIN

The Deutsche Glastechnische Gesellschaft (German Society of Glass Technology) is housed in an extraordinarily striking and beautiful building made almost entirely of glass in its many forms and designed by the Frankfurt architect, Professor Kahn. The Conference Room here is especially noteworthy: on entering through a sliding door at the back one can press a switch which closes the door, switches on the lights, and draws the blinds so that the room is then ready for a lecture or a film. The walls, ceilings, floors, and staircase—a large spiral one ascending through the middle of each floor—are all of glass. Furniture is mostly tubular aluminium.

A certain amount of research is carried out in the 'Glass House' but the main research effort in the German glass industry is done at the members' works.

The main work of the 'Glass House' is to publish the *Glastechnische Berichte*. The chief officials are the director, a documentation manager, and a librarian, editor, secretary, publishing secretary, and accountant.

Günther Stein, the documentation manager, is very active in the sphere of German technical information and has done a considerable amount of lecturing in this field. He is convinced that the present flood of technical information in its numerous forms can properly be controlled only by specially trained and experienced people—now frequently referred to in Germany as 'literature or documentation engineers'. His main theme is that literature research should rank equal to laboratory research, since proper attention to published and unpublished information prevents duplication of research effort. Neither should it be forgotten that literature research is cheaper than laboratory research.

I was informed that, in 1941, the secretary of the V.D.I. (Institute of German Engineers) stated that, of almost 50,000 patent applications made that year, only one-third reached the stage of being published for examination and only three-tenths were finally granted. The years 1877 to 1941 provide a similar picture. Of the 2,500,000 German patent applications, less than two-fifths were published for examination and only one-third was finally granted. This indicated that patent applicants were not paying attention to the technical literature.

Library

The Deutsche Glastechnische Gesellschaft has what it maintains is a complete library of 'glass literature', including all German patents in glass and allied fields. It subscribes to over 100 German and foreign magazines but, even so, 25 per cent of the papers abstracted in 1956 in the library card catalogue appeared in periodicals outside the subscription list (i.e. these abstracts had been culled from abstract journals such as *Chemical Abstracts* and similar German services such as those provided by Gmelin).

The Deutsche Glastechnische Gesellschaft uses its card catalogue to build up its publication—in the same way as the Gmelin Institute does—and it publishes about 800 glass abstracts per year, excluding patent abstracts.

The library catalogue was on the UDC system. Mr Stein had one female scientist with library qualifications, plus one assistant to run the library 'mechanism' (collection, classification, loans, etc.).

GMELIN INSTITUT, FRANKFURT-AM-MAIN

The aim of the Gmelin Institute is to 'evaluate in retrospect the entire subject matter in its field from the point of view of modern knowledge and to extract from obsolete material the kernel which can be of value to us today'. A major part of the Institute's efforts is directed towards the production of the world-famous *Gmelin Handbook*.

The Institute belongs to the Max Planck Society for the Advancement of Science (of which the Max Planck Institute for Ferrous Metallurgical Research in Düsseldorf is also a member). Its income derives from the sales of its *Handbook*, from the Max Planck Society for the Advancement of Science, from orders for literature research, from subscriptions for certain information services, from donations, from certain financial support from the Federal Government, and from the German chemical industry.

The *Gmelin Handbook*, the classic compendium of inorganic chemistry, is a precision tool which, of necessity, is costly. The price of the various volumes forming the *Gmelin Handbook of Inorganic Chemistry* varies greatly, e.g. 10 dollars for the volume on oxygen, 295 dollars for the volume on platinum. Quite a number of the separate volumes cost over 100 dollars each, while that on iron (system 59), when complete, costs over 650 dollars. The *Handbook* was originally published in 1817 by Leopold Gmelin and it remained under his editorship until his death in 1882. It covers the field of inorganic and physical chemistry, nuclear chemistry and physics, analytical chemistry, colloidal chemistry, electro-chemistry, corrosion, mineralogy, crystallography, geochemistry, metallurgy, radio-activity, and the thermal, optical, electrical, and magnetic properties of matter. It aims to provide exhaustive but concise and critical presentation of the knowledge of inorganic chemistry and related sciences.

By the beginning of 1957 a total of 146 parts, containing 35,248 pages, had been published. It is estimated that the complete eighth edition will be ready in twelve to fifteen years, during which period about 24,000 pages of new material will be published, including 11,000 pages of supplement volumes.

The preparation of the *Gmelin Handbook* is carried out by a permanent staff of forty-two scientists and fifty-seven assistants. Although each scientist is a specialist in a given field, his average yearly output does not exceed sixty printed pages due to Gmelin's stringent requirements for the study of the mass of original literature, the need for extreme accuracy, and for conciseness in the evaluation and presentation of subject matter.

In addition to the processing of current knowledge, all out-of-print volumes of the *Gmelin Handbook* have been reprinted so that every previously published part of what is to form the eighth edition is now available.

In order to make the *Gmelin Handbook* more valuable to its users by providing continuity of coverage, the Gmelin Institute has provided an Information Service based on its subject matter files. These archives were started in 1922 and cover information published subsequently to its current volume.

The Institute has, at present, 1,200,000 'archive cards'. Until recently these were used solely as a basis for the preparation of the *Handbook* and so this tremendous, well-processed scientific and technical material remained in 'dead storage', often for a number of years, before it was incorporated in new volumes of the *Gmelin Handbook*.

The newly reorganized Gmelin Information Service under Dr Hantke is an attempt to utilize Gmelin archives more fully and to make their contents available to industrial and governmental institutions. The service is designed to provide critical and exhaustive literature studies to supplement what is published in the volumes of the *Handbook*. Such studies are provided in the form of information cards, each card containing an abstract and full details of the original publication. A critical analysis of the subject is also provided with each literature study.

In addition to the data and abstract given on the face of the information card, a photostat copy of the relevant Chemical Abstract is stuck on the back of each card. The Board of Directors of the American Chemical Society agreed to this procedure in September 1952.

There is no fixed charge for handling literature inquiries, as the Institute desires only to cover its costs in connection with the Information Service.

Classification of Chemical Compounds

The Gmelin method of classifying the enormous amount of data on chemical compounds is of sufficient interest to be noted here.

The classification system is based on a numerical sequence of elements, each element having a 'system number'. These system numbers differ from the atomic numbers of the elements in the periodic system and are arranged so as to make possible systematic and comprehensive treatment of all major anionic groups for each cation-forming element. Thus, all major compounds of an element are classified systematically in the volume pertaining to that element.

Library

The library serves the Information Service and, through it, the Gmelin specialists and was stated to cover fully the field of inorganic chemistry and allied areas. Due to a sudden change in programme, my visit had to be cut short, so that no library statistics were obtained. I had the quick impression, however, that the bulk of the stock was periodicals (bound) with a large patent section. Much use is also made of outside libraries of technical universities, etc.

DECHEMA (DEUTSCHE GESELLSCHAFT FÜR CHEMISCHE APPARATEWESEN), FRANKFURT-AM-MAIN

Dechema is a non-profit-making society established to promote the development of chemical apparatus for laboratories and works. It was founded in 1926 to form a link between the engineer and chemist. The Society is housed in one of the giant new buildings typical of Frankfurt.

Services

Advice and information on chemical apparatus and plant and on materials for such equipment.

Establishment of standards.

Provision of monographs and abstracts.

The Dechema Literature Rapid Service (short abstracts supplied monthly to members against a subscription of 32 DM (about £2 14*s*.) per 100 (non-member's rate is about £3 7*s*. per 100 abstracts). About 500 items per month are issued.

Organization of conferences.

Running of technical committees.

Organization of exhibitions (the permanent Dechema Exhibition covers two floors of the large Dechema house).

Training and education in all branches of chemistry.

Award of prizes to authors of distinction.

The Information Officer was Professor Dr Fischbeck, formerly professor of chemistry at Heidelberg University. He had built up the Dechema technical library from very little after the war and was responsible for the organizing of the permanent exhibition and for the training programme for students.

Dr Fischbeck stated that he had to 'earn what he spent' on the information services. Most of the costs of running the library were covered by the income from the Literature Rapid Service. This was 'produced by cheap labour' as Dr Fischbeck makes full use of students to do much of the abstracting. Graduates are often glad to spend two years with him to gain experience in the literature.

The library subscribes to about 350 periodicals but borrows much from external sources. The UDC classification is used basically with some home-made built-in sections. Loans are made to members as well as to Dechema staff.

Dr Fischbeck raised an interesting point on the question of translations. I had asked him why German authors could not have arrangements with English translators to translate their papers from typescript as the paper was in the course of preparation, the final translation being corrected with the final draft of the original paper. This would mean that both the English and German versions could be published together. The same thing would operate in the other direction. Although such arrangements could be made on a limited scale only, the idea might help to disseminate *new* research and development work quickly. Such an idea is already working with Russian authors in the case of new books. Professor Fischbeck told me that he had already approached certain German chemical periodicals with the suggestion that they should publish *selected* articles also in English—in the same issue as the original—and that such German journals should suggest to their 'opposite numbers' in the United Kingdom that the latter should publish some of their articles also in German. He thought that, far from adversely affecting their readership, such a service would increase the importance of each journal in the other country. I told him that the German Iron and Steel Institute already had plans to publish certain of their papers in English though possibly in a separate English edition.

Dr Fischbeck's experience was that much money could be wasted in translating publications such as textbooks and instanced the Dechema publication *Werkstofftabellen*. They had found, with the new edition, that it was more economic to sell only a portion of the German edition in France rather than to have the entire publication translated into French and to try to sell all the French edition.

Publications

Dechema publications, for which the Information Service is largely responsible, include:

Chemie Ingenieur Technik. This is the joint official organ of Dechema, the

German Chemical Society and the Institute of German Engineers. It reports monthly on new processes, plant, materials, and instruments.

Werkstoffe und Korrosion. This is the joint official organ of Dechema, the German Advisory Service for Structural Materials and the Works Society (Betriebsgemeinschaft) on Corrosion. It is a monthly dealing with metallic and non-metallic materials and methods of protection against corrosion. It publishes 2000 abstracts per annum from world literature.

Dechema Monographs. These are mainly lectures delivered at important Dechema functions.

Dechema 'Material Tables'. These provide details of the chemical resistance of numerous structural materials against 1000 corrosive media. It appears irregularly in sets of 100 sheets.

Dechema 'Exchange of Experience'. This reports new data and experience in all branches of chemical engineering. Appears irregularly.

Dechema 'Literature Rapid Service'. This is a continuous review of articles on chemical engineering from 200 journals. It appears monthly and is printed on one side only (about 400 pages per year).

Achema European Year Book. This book is a catalogue of chemical plant designed to prepare the visitor to the Chemical Congress and Exhibition held every few years. This exhibition is separate from the permanent one in Dechema House.

Dechema Individual Questions. These are sheets dealing with special problems and include information on discussions leading to a specific research project, together with a summary of the results of the research. These sheets do not name the firms concerned.

A.E.G. (ALLGEMEINE ELEKTRIZITÄTS-GESELLSCHAFT), FRANKFURT-AM-MAIN

It was at the suggestion of Dr Spandau of R.K.W. that we fitted in a brief visit to this organization. A.E.G. were in the process of moving the entire technical library into a new headquarters building, so that we saw nothing of the library.

A.E.G. own several large producing units and laboratories outside Frankfurt. The head office with the entire administration, however, is in Frankfurt.

The staff of the head office of A.E.G. number 1200, of whom about half are registered borrowers. The library staff is nine (including five qualified technical specialists). Library stock is about 50,000 (books and separate papers) and they subscribe to 400 periodicals.

Translations are bought externally.

Much use is made of ready-made abstracts, particularly of the British *Physics Abstracts* published by the Institution of Electrical Engineers, in building up the library catalogue.

The classification was based on subject-headings and not on UDC—which was rather surprising, since electrical engineering is among those subjects for which UDC caters well.

LUXEMBOURG

HIGH AUTHORITY DOCUMENTATION DIVISION

The fields of information served by the Documentation Division (colloquially known as the 'High Authority Library') were many and complex and included, in addition to law and economics, production data and information on processes and products in the six member countries, safety in mines, industrial welfare, automation, market research, etc. The High Authority Library has contacts with 900 other libraries and organizations in the member countries but does not deal with firms. It subscribes to 2600 periodicals and effects 5000 circulations of periodicals each month (in some cases, five copies of a periodical are circulated in the High Authority administration alone). Two people on the library staff are full time on circulation records. A number of typists and staff to copy record cards is employed but these people belong to the secretariat personnel and are not counted as library staff.

The classification is that of I.N.S.E. (Institut National de Statistique et Economie). Much use is made of ready-made printed abstracts which are stuck on cards.

Library

The rules for operating the High Authority Library are extremely complex, strict and—often unnecessarily—detailed. For instance, strict spacing had to be adhered to not only on the left- and right-hand margins of catalogue cards but also top and bottom as well. Index cards are 4 in. × 6 in.—red for authors, dark blue for titles, light green for editors, violet for publishers, white for symposia, etc. The catalogue cards are produced by Banda spirit duplicator. Catalogue cards bear the following details: registration number (which ties up with the purchasing order or subscription), inventory (i.e. accession) number, country of origin of the publication (classification of all information by country is important throughout the High Authority), format of original document plus the number of pages. The information on the catalogue cards is in German, French, Italian, Dutch, or English, but if the original is in any language other than these, a French translation is given.

The catalogue cards are classified in each of the following ways: by accession number order, thus giving a chronological sequence; in order of the first important word in the title; author order; country order (with first-word-of-title order within each country); publisher or organization order; I.N.S.E. decimal classification order; in broad subject order (such as coal, steel, building) alphabetically.

All books and documents are arranged on the shelves in accession number order, i.e. they are physically placed in chronological order and not according to subject.

For each periodical, a Kardex card is established. This is a large card about quarto size and it contains details of title, publisher, periodicity, the Purchasing Department's subscription number, the number of copies of each title received, the fixed circulation list. A separate card is used for each periodical to control (check) receipts. A third periodical card is used to effect the fixed circulation loan and the specific request loans.

Forms in French and German are printed for library 'customers'. A stock of these forms is held by each department so that specific books, documents, magazine articles or reports can be requested from the library. Another type of form is sent by the library to persons who, it is considered, will be interested in a specific book or article. These forms are an invitation to the addressee to request the item on loan. Only title, author and source are mentioned. No abstracts are issued. When an item is sent out on loan it is covered by a red ticket for loans up to fifteen days, a yellow ticket for loans of unlimited period and a blue ticket for loans of twenty-four hours maximum. Borrowers sign the loan card and return it immediately.

The rules affecting purchasing and subscriptions are also very complicated—possibly with some justification in such a large organization as the High Authority and the Community Administration. Certain orders have to be made out in sextuplicate.

The only unsolicited information issued by the library, apart from the previously mentioned forms inviting specialists to request loans, is the fortnightly list of *Selected articles*. About 500 are issued each month. They contain titles and sources of magazine articles presented in subject groups, in country of origin order, and also in inverse chronological order (i.e. in three different ways).

A.R.B.E.D. (ACIÉRIES RÉUNIES DE BURBACH-EICH-DUDELANGE)

The enormous head office building of Arbed with its selling organization Columeta (Comptoir Luxembourgeois Metallurgique) is one of the most imposing in Luxembourg city. It is situated in the main artery—the Avenue de la Liberté.

Arbed comprises several plants in Luxembourg and the Saar operating blast furnaces and mainly Thomas converters with some arc furnaces and small open hearths, and producing about 3,000,000 tons per year.

The combine employs about 25,000.

On entering the Arbed organization one quickly experiences a noticeable change in atmosphere compared with that of the High Authority offices. There seemed to be a greater sense of urgency and the feeling of belonging to a common family while, in the various departments of the High Authority administration, one felt that each section was little concerned with its neighbour. These were, of course, first impressions and there was no time for them to be modified.

Information Services

The main feature of the Arbed library is periodicals. Subscriptions total 50,000 Luxembourg francs (£375) per annum. The number of periodicals received from various countries was:

Argentina	1	Holland	2
Australia	1	Italy	1
Austria	2	Luxembourg	10
Belgium	44	Saar	5

Canada	1	Switzerland (mostly house journals received gratis)	16
England	15		
France	54	U.S.A.	31
Germany	64	Total	247

In many cases as many as five copies of each title are received (e.g. *AEG Mitteilungen*). The library takes no Russian periodicals but follows abstracts of these in the *I.S.I. Journal* and the *A.S.M. Review*. Interest was shown in the British Iron and Steel Industry Translation Service.

Arbed uses printed abstracts (I.S.I., A.S.M. and C.D.S. of Paris) and even photographs some of these and sticks them on cards. The preparation of these cards is done on contract by a private person outside the Arbed organization.

Very close contact is maintained with the C.D.S. (Centre de Documentation Sidérurgique) in Paris, from whom Arbed borrows many books and reports. Much material is also borrowed from the various centres in Brussels.

The Arbed Information Service issues 300 copies of a 20–30 page *Bulletin Technique* twice a month to its laboratories and works managers but not direct to production staff.

BELGIUM

C.N.R.M. (CENTRE NATIONAL DE RECHERCHE METALLURGIQUE), LIÈGE

Organization

Belgium has a number of university laboratories with interest in ferrous metallurgy at Liège, Mons, Brussels, Louvain, and Ghent. On a national level, pure research is supported by the F.N.R.S. (Fonds National de la Recherche Scientifique), while applied science is supported by I.R.S.I.A. (Institut pour l'Encouragement de la Recherche Scientifique dans l'Industrie et l'Agriculture).

The C.N.R.M. was created on 11th March 1948 by the metal industries as a non-profit-making association largely subsidized by I.R.S.I.A. (who guarantee half the cost of its research), but also obtaining support from the ferrous and non-ferrous metallurgical industries by means of a levy.

Library

The technical library is very small and mainly serves the laboratory staff. It is housed in one small office. The C.D.S. classification is used.

Periodicals are issued on a fixed circulation to laboratory staff who are responsible for producing abstracts for the library cards of specially interesting articles. These abstracts supplement the printed abstracts used to build up the card catalogue. A good deal of material is borrowed from the C.D.S. in Paris.

C.N.R.M. (CENTRE NATIONAL DE RECHERCHE METALLURGIQUE), HAINAULT SECTION, CHARLEROI

The C.N.R.M. at Charleroi is common to a group of companies in that area producing three million tons of steel per annum. It is housed on part of the third floor of the Charleroi Technical High School (which is below university level and which has 3000 pupils).

At the present time, the library buys only what it needs frequently or what is difficult to obtain on loan. Inquiries reach the C.N.R.M. for literature mainly by way of the research people in the plants and not direct from the production departments.

I asked what proportion of the material used for inquiries was new, say less than five years old, and was told that 71 per cent of the literature used is less than one year old; 23 per cent is under ten years old; and only 6 per cent is over twenty-five years old.

The card index system consisted of about 50,000 cards classified according to the C.D.S. system. This card catalogue system consisted almost entirely of printed abstracts produced in the monthly publications of the C.D.S. and thus represented mostly material available on loan and not material actually available in the C.N.R.M. library.

Translation problems are confined to Russian work which is abstracted by the C.D.S. in Paris. Comparatively few translations are ordered because of the cost although, in contrast to conditions in Germany, Russian translation at 40 Belgian francs per hundred words (about 5*s.* 10*d.*) is not unduly expensive.

Publications

The C.N.R.M. at Charleroi issue two main publications. These are the *Mémoires*, which represent research carried out by the C.N.R.M. at Charleroi, and the *Recueil de Conferences*, which are publications by the Charleroi C.N.R.M. of research done in the Charleroi laboratories in conjunction with other bodies. This publication also includes important papers given by visitors to Charleroi.

All these publications are issued as separate bound reprints and cover the field of metallography, properties and testing, as well as iron and steel-making.

CENTRE BELGO-LUXEMBOURGEOIS D'INFORMATION DE L'ACIER, BRUSSELS

Mr Emmanuel Greiner, Director of the Centre, described his job as 'making active propaganda for steel and finding authors to write papers in *Acier Stahl Steel*'. The organization is supported by all the steel producers in Belgium and Luxembourg and by many metal fabricators. The staff is twenty engineers.

Mr Greiner stated that he used forty-five tons of paper per annum for printing and produced seven million copies of the four editions every year. He had 3,500,000 subscribers for the four editions (French, English, German and Portuguese) of *Acier Stahl Steel.*

The library is housed in two rooms. The classification used is the C.D.S. but no author index is made. A great part of the work is associated with education and training, using films, exhibitions, and conferences. I.S.I. printed abstracts, Chemical Abstracts and C.D.S. abstracts are stuck on cards to form the catalogue. A good deal of borrowing is done from outside sources, particularly from the C.D.S. (Paris).

Publications

Acier Stahl Steel. A list of films, both elementary and specialized, to cover iron and steel-making but mainly emphasizing the steel applications side.

Notes d'Information. These are special publications dealing with such items as building erection and special uses of steel. They are non-periodical.

Panorama in both Flemish and French. These are general elementary write-ups on ores, descriptions of steel-making processes, special uses of steel (e.g. for guard rails), supersonics, etc.

Mr Greiner asked why more British firms did not advertise in *Acier*, since they publish an English edition. British firms could also benefit by these editions published in South America and the English-speaking world.

HOLLAND

N.I.D.E.R. (NEDERLANDS INSTITUUT VOOR DOCUMENTATIE EN REGISTRATUUR), THE HAGUE

I was received and conducted during the morning by the managing director, Dr M. Verhoef.

The N.I.D.E.R. was founded on 31st October 1921 as a non-profit-making organization to keep Dutch industry and scientific workers up to date with technical literature. It was limited to Holland but now enjoys a world-wide reputation. The Dutch Patent Office obtained a new building in 1933 and rented part of it to N.I.D.E.R. and thus the N.I.D.E.R. is now its immediate neighbour.

N.I.D.E.R. arose out of literary research work initiated by F. Donker Duyvers on behalf of Dutch industry. This work was mainly carried out in the Dutch Patent Office. Donker Duyvers later co-operated with people who were pioneering record filing systems in Holland. There was close co-operation between N.I.D.E.R. and the N.I.V.E. (Netherlands Institute of Management) and both institutes had a common administration until 1949, when Dr Verhoef became director of N.I.D.E.R.

Organization

Information staff 17 (all graduates); total staff 50; number of subscriptions to periodicals 700; number of abstracts journals taken (including foreign) 120; number of photocopies produced each year 300,000 (this includes printing from microfilm material and enlargements).

N.I.D.E.R. obtains its income from contributions, gifts, what it earns from services (see below) (80 per cent of the total income), plus a government subsidy (20 per cent of the total income).

The 1952 budget (I did not get the latest figure) was 245,000 gulden (£24,500).

Average number of literature searches made per annum over the last few years 2000 (income from these literature searches is approximately 100,000 gulden, or £10,000). Number of inquiries for specific documents, 4500 (approx.) per year; number of patent searches made per month (average) 100.

Activities

Searching the literature and patents on a specific subject. Inquiries are treated confidentially. An estimate can be given in the case of each inquiry, based on the working hours involved. These searches include novelty searches (i.e. advising on the novelty of an intended patent application). N.I.D.E.R. also makes searches in connection with possible anticipations connected with a patent application which has already been laid out for examination, and searches for foreign patents corresponding to a patent granted in any country. The literature can also be searched for patents on general subjects for those interested in a wide field for a lengthy period, e.g. anyone interested in current patents on fluidization would receive copies of catalogue cards in return for a subscription. The original catalogue cards are photocopied for such purposes and are supplied in UDC order.

A photocopying and microfilm printing service and enlargement service is operated.

A special service is offered in connection with the N.I.D.E.R. collection of certain American reports which are not always easy to obtain, such as NAVORD reports (United States Department of the Navy, Bureau of Ordnance), NRL reports (United States Naval Research Laboratory), and USAF (United States Air Force) reports. N.I.D.E.R. obtains certain material from the Dutch military attaché in Washington, who has special funds for obtaining such research reports, and in certain cases it may well be able to obtain such reports more quickly than we could receive them through United Kingdom government channels.

Answers are given to specific inquiries in the form of a report or review referring to a given period.

Bibliographies are provided on subjects covering a given period. Such bibliographies are later sold but the original inquirer, of course, remains anonymous.

Subscribers are kept informed periodically with two-line abstracts.

N.I.D.E.R. supplies advice on the setting up of new libraries.

N.I.D.E.R. helps to run several study committees associated with matters of documentation (e.g. developments in the UDC classification, abstracting services, document copying, punched cards).

Cost of Inquiries

The N.I.D.E.R. are subsidized by the Dutch Government and their prices for the various services they provide are given approximately below, though it should be remembered that these prices apply to Holland only.

Customers can receive photocopies of catalogue cards on a certain subject for a subscription of approximately £5 10*s.* per annum. This is the basic cost and there is an extra charge of 27 Dutch cents (about 6*d.*) per card. About 75,000 cards per year are issued in this way.

Ordinary membership of N.I.D.E.R. (which entitles a member to their various publications—some free of charge and some at lower rates) is about £1 10*s.* per annum for private persons and ranges up to £20 per annum for works employing more than 1000 persons.

Organizations with which N.I.D.E.R. co-operates

The Foundation for Scientific Literature which is Not Readily Available. This refers to a large extent to Russian and Japanese work.

The Documentation Centre for Nuclear Energy (DCA), in which all the literature on nuclear energy is concentrated in one centre.

The Netherlands Standard Organization. In co-operation with these people, N.I.D.E.R. have produced eighty-two standards in the documentation field. They also work with the Documentation Committee of the International Standards Organization (Technical Committee No. 46).

Training Courses

These courses are run by N.I.D.E.R. in conjunction with the Netherlands Union of Librarians (equivalent to the L.A.). These courses include such subjects as: Industrial libraries; Social, Economic and Political Libraries; Filing; Training of Research Information Officers; Correspondence courses on classification, cataloguing, etc.

Library

The loan service from the N.I.D.E.R. library applies only to books on the field of documentation itself and in handling subject inquiries, N.I.D.E.R. uses the Patent Office library, the various other libraries of the T.N.O. organization and of the library of the university in Delft.

The N.I.D.E.R. library is therefore one mainly of reference books in the documentation field.

Dr Verhoef has, in his staff of seventeen, nine literature search officers, six engaged in photocopying and printing, two staff employed in connection with government reports from various countries. These reports include such as are not readily available through booksellers.

Patents

N.I.D.E.R. uses the Dutch Patent Office library in the same building. By arrangement with the Dutch Government, N.I.D.E.R. charges for such patent services. A note on the Dutch Patent Office follows the section on N.I.D.E.R.

Publications

Tijdschrift Voor Efficiäntie en Documentatie—monthly organ of N.I.D.E.R. This is published in conjunction with the Netherlands Institute of Efficiency and the Netherlands Society of Works Archivists.

Nederlands Technische-Wettenschappelijke Literatuur—monthly bibliography giving titles of articles in UDC order.

Automatisering. A bibliography on automation (with current additions) published in co-operation with the Netherlands Institute of Efficiency, the Ministry of Social Affairs and others.

Bibliotheek en Documentatsiegids Voor Nederlands—in co-operation with the Dutch L.A.—a guide to sources of information in the Netherlands.

It should perhaps be added that Dr Verhoef feels strongly that special documentation activities, i.e. technical information services, should be decentralized and N.I.D.E.R. does pass on all inquiries where special information organizations in the relevant fields exist in Holland. For instance, inquiries regarding the technologies of rubber, ceramics, and aeronautics are passed on to the relevant organizations and are not handled direct by N.I.D.E.R.

Incidentally I was here again to be told that there was a general resistance to the use of microfilm readers.

DUTCH PATENT OFFICE, THE HAGUE

I only had precisely five minutes to look in here and meet the man in charge, Mr G. J. Kulewijn, who is responsible for the classification of Dutch patents according to the Dutch Patent Office system which, he admits, is a very difficult one.

He has a librarian who has three assistants to deal with the mechanism of the library and patent searching.

The Dutch Patent Office is open to the public. The following patents are stored in classified subject order (according to Dutch Patent Office classification):

Belgian	since 1941	Netherlands	since 1912
French	„ 1902	Swiss	„ 1939
German	„ 1877	United Kingdom	„ 1909
Luxembourg	„ 1952	U.S.A.	„ 1920

Patents are stored in *numerical* sequence naturally much farther back, e.g. in numerical sequence they have Canadian patents from 1899, French from 1791, German from 1877, British from 1617, Russian 1896–1912, American from 1883, and Swiss from 1888.

I was given to understand that *all* past patents can be quoted against a Dutchman applying for a Dutch patent. This is irrespective of how old the Dutch or foreign patent might be.

A Dutch patent life is eighteen years and the cost of a Dutch patent is one guilder. It is interesting to note that the Dutch Patent Office have published their indexes of patentees for 1956 and 1957 is ready for publication. They do not, however, publish abstracts as is done in the United Kingdom. The inflow of patents into the Dutch Patent Office is 10,000 per month.

T.N.O. (CENTRAL NATIONAL COUNCIL FOR APPLIED SCIENTIFIC RESEARCH IN THE NETHERLANDS), THE HAGUE

The T.N.O. is a body in which three factors co-operate—science, social life and the State. This organization is composed of a series of branch councils each working in its own field but responsible to the Central National Council. The branch councils cover industrial research, nutrition, agricultural research, national defence, and health. The costs are met from a national subsidy, subscriptions from industry and payments for services.

Library

The library consists of three rooms and serves mainly the legal, financial, and administration sections of the management, i.e. mainly the head office of T.N.O. in The Hague.

The library staff numbers six. The library contains about 5000 books, 3000 separate articles (pamphlets), and subscribes to about 200 magazines.

The library has a dictionary catalogue. It was thought that the UDC system was not suitable for dealing with this type of work.

For patent searches the Dutch Patent Office is used as the T.N.O. Patent Department is concerned almost entirely with the legal aspect of patents.

T.N.O. has a fixed circulation for magazines and does not use microfilm.

METAALINSTITUUT, DELFT

This institute is part of the T.N.O. (see previous section). It obtains its income from T.N.O., from industry, and from services rendered. The information staff numbers eight, including four information officers (graduates), one administration officer for purchasing, subscriptions, etc., and two library assistants.

The library contains about 2000 books and 10,000 pamphlets (separate articles) and subscribes to about 100 magazines (about half of which are on subscription and half on an exchange basis).

The library users are mainly the specialists inside the Metaalinstituut, though material is exchanged with outside contacts, chief of which are the university in Delft and the C.D.S. in Paris.

The Metaalinstituut library has already encountered a certain space problem and they have dealt with it by selling the older material to other Dutch libraries. They bind all periodicals and provide a photocopying service.

Periodicals are circulated on a fixed list. As in certain other organizations on the Continent, the specialists are responsible for reading their own abstracts journals and for providing abstracts of current articles to build up the library catalogue. Here again there was resistance to the use of microfilm readers and there was no interest in micro-cards.

The Metaalinstituut does not issue publications of its own but publishes its work in the Dutch journal *Metalen* and the Dutch welding journal.

ROYAL DUTCH SHELL, THE HAGUE

The above organization is known in Holland as the B.P.M. (Bataafsche Petroleum Maatschappij).

The Head of the Documentation Department is Mr J. Van Dijk, who is responsible for *all* records at B.P.M. including wages, accounts, purchasing, Hollerith, etc.

The 'archives' staff, all responsible to Mr Van Dijk, number just over 180, including sixty people in the photographic and copying departments.

The B.P.M. Translation Group consists of twenty translators but is under the wing of the 'Correspondence and Translation Section', which deals with current correspondence. Correspondence files and translations, once they have entered the records, come under the jurisdiction of Mr Van Dijk.

Information and Library Services

The Literature Search Division consists of fifteen graduates, who share ten assistants who are graduates in training though many of them stay on in the

Literature Search Division to become specialist section heads. The division also includes five female assistants and typists. This section can do both critical or factual literature searches but 90 per cent of their inquiries call for critical reports.

The library staff is eighteen and deals mainly with library mechanism, purchasing, classifying, indexing, loans, etc. It includes two qualified female librarians and one qualified male.

All the periodicals are bound and a photocopying service is available.

Loan cards extracted from the books are fastened on to a wooden block which replaces the book on the library shelf.

The library contains 60,000 books and subscribes to 1200 periodicals, i.e. 1200 titles, but 1700 subscriptions are actually paid because several of the magazines are duplicated. The UDC classification is used.

The main feature about the B.P.M. Information Service of the Literature Search Division is the close contact with the inquirers. When a new refinery is to be set up and information is wanted on equipment, new catalysts, etc., the relevant section heads are sent from the Literature Search Division to the production point—even though this is sometimes outside Europe—to discuss the problem in detail with the field engineers before looking into the literature. The information specialists ascertain, therefore, from the production engineers what has already been done in the laboratory by them and what they have already collected by way of data and written material. The section head then returns to the Literature Search Division and his assistant makes preliminary collection of the literature on the problem. This frequently involves the assistant travelling to London, Paris or Brussels to collect the necessary documents. B.P.M. allow their people generous travelling expenses abroad or, in places where there is a Shell Office, they are looked after and allowed a substantial extra per day. Fairly regular journeys are made to the Technical Information Documentation Unit (T.I.D.U.) in London.

Having collected the data, the section heads of the Literature Search Division then produce a critical report ranging from ten to sixty pages, which is sent out to the production engineers in the field. The literature searchers frequently go out to the new plant at a later stage to discuss the progress with the engineers and to ascertain whether further literature checks are necessary.

The department deals with fifteen to thirty inquiries per month—not, of course, all of the magnitude described above.

Patents

The B.P.M. Patent Department has about 1,500,000 patents. It started to classify these by mechanical means with punched cards by taking an initial cut of 7000 patents with which to experiment. This experiment is still progressing.

The B.P.M. library borrows about 6000 books per annum from external sources and sends out about 3000 loans to their own people outside The Hague in addition to loans within Headquarters.

Much use is made of Delft University and close contacts are maintained and literature is exchanged, even with competitors such as Standard Oil.

The library consists of one main library room, two administration offices, one reading room, and one room for periodicals.

A fixed circulation system is used for periodicals (magazines) to departments only. Within each department there is one person responsible for circulating the periodicals round that department before they are returned to the library. The three persons who do the classification in the library are all subject specialists with university degrees.

SELECTIONS FROM THE RECENT LITERATURE

Books and Pamphlets

AUSTRALIA. Department of Supply. *Weapons Research Establishment*
Universal Decimal Classification. British Standard 1,000: volume 2, part 1. Classes 50, 51, 52, 53. An index of proper names as used, compiled by Stephanie Servante Fountain. Salisbury, the Department, 1959. 31 pp.

BRISTOL, ROGER P.
Closed-circuit T.V. equipment as used in a decentralised library situation. Charlottesville, University of Virginia, 1958. 13 pp.

BRITISH STANDARDS INSTITUTION
British standard for periodicals of reference value: form and presentation. London, B.S.I., 1959. 24 pp. (B.S. 2509: 1959). 6*s.*

BUNDOCK, CLEMENT J.
The story of the National Union of Printing, Bookbinding and Paper Workers. Oxford, the Union, 1959. vii, 588 pp. 5*s.*

CANADIAN conference for computing and data processing, June 9, 10, 1958, held at the University of Toronto: Proceedings. Toronto, University of Toronto Press; London, O.U.P., 1959. xii, 383 pp. 40*s.*

CHEMISCHES Zentralblatt . . . das System, Stand vom 1. April 1958. Berlin, Akademie-Verlag, 1958. 95 pp. DM 12.

CONSOLIDATED MINING AND SMELTING COMPANY OF CANADA LTD
Library decimal filing index. Revision of January, 1957. Trail, B.C., the Company, 1957. 72 pp.

CROWN, F. EVELYN, *editor*
Summary proceedings of the Assembly of State Librarians held at the Library of Congress, November 12–14, 1958. Washington, Library of Congress, 1959. v, 45 pp. *gr.*

DAY, F. T.
An A.B.C. index of papers . . . London, Trade Journals Ltd., 1959. 161 pp. 20*s.*

*ENCYCLOPEDIA of American associations, 2nd ed.: a guide to the national organizations of the United States . . . Detroit, Gale Research Institute, 1959. ix, 716 pp. $20.

FAYE, HELEN, *editor*
Picture sources: an introductory list. New York, Special Libraries Association, 1959. [8], 115 pp. $3.50.

HERNER, S.
Research, problem solving, and the use of technical information in small and medium sized manufacturing firms. Washington, Office of Technical Services, 1958. 26 pp. 75*c.*

INTERNATIONAL BUSINESS MACHINES CORPORATION, FRANCE
Quelques mots d'anglais technique . . . Paris, IBM, 1957. 91 pp.

JOHNSON, A. F.
Type designs: their history and development. 2nd ed. London, Grafton, 1959. viii, 184 pp. 21*s.*

KEYS, THOMAS E.
Applied medical library practice. Springfield, Illinois, C. C. Thomas, 1958. xix, 495 pp. $10.75.

LINGUISTIC and engineering studies in the automatic translation of scientific Russian into English. . . . Seattle, University of Washington, 1959. Various paging. $10.

LUHN, H. P.
Potentialities of auto-encoding of scientific literature. New York, IBM, 1959. 22 pp.

LUTHER, FREDERIC
Microfilm: a history, 1839–1900. Annapolis, National Microfilm Association, 1959. [8], 195 pp. $7.50.

MCCORMICK, EDWARD MACK
Digital computer primer. New York. . . . London, McGraw-Hill, 1959. viii, 214 pp. $7.50; 58*s.*

MICHOUROFF, ANNA S.
Fundamental Russian. New York, S.L.A., Sci-Tech Group, 1959. 96 pp. $3.50.

MICROCARD FOUNDATION
Catalog of microcard publications. No. 1, July, 1959. Wisconsin, the Foundation, 1959. 32 pp.

NYBAKKEN, OSCAR E.
Greek and Latin in scientific terminology. Ames, Iowa State College Press, 1959. xi, 321 pp. $5.95.

SHARIFY, NASSER
Cataloguing of Persian works, including rules for transliteration, entry and description. Chicago, A.L.A., 1959. xiv, 161 pp. $3.50.

THOMPSON, RALPH B.
Selected and annotated bibliography of marketing theory. Austin, University of Texas, 1958. 27 pp. (Bibliography series, no. 14.) 50*c.*

UNITED STATES. Library of Congress. *Reference Department*
Library and reference facilities in the area of the District of Columbia. 6th ed. Washington, Library of Congress, 1959. 174 pp. $2.

VISWANATHAN, C. G.
Cataloguing theory and practice: a guide to [sic] the student of library science. 2nd ed.

Banaras, Hindu University Press; London, Blunt, 1959. xvii, 337 pp. Rs. 16; 24*s.*

WAGNER, FRANK S., *compiler*
A dictionary of documentation terms. Texas, Celanese Corporation of America, 1959. [40] pp. *gr.*

WHITE, CARL M. *and others*
Sources of information in the social sciences: an annotated bibliography [by] Carl M. White in collaboration with Ruby L. Collins, Robert Ihrig, Beatrice Kemp and James Leathers. . . . New York, Columbia University Bookstore, 1959. iii, 130 pp. $2.50.

WOFFORD, AZILE
The school library at work: acquisition, organization, use and maintenance of materials in the school library. New York, H. W. Wilson, 1959. 256 pp. $3.50.

Articles and Papers

AARESTAD, GILMORE C.
Planning attractive booklists. *Library Journal,* vol. 84, no. 12, 15 June 1959, pp. 2035–2037.

BRANDWOOD, LEONARD
Some problems in the mechanical translation of German. *Mechanical Translation,* vol. 5, no. 2, November 1958, pp. 60–66.

BROCKWAY, DUNCAN
Coordinate indexing at the University of New Hampshire Library. *American Documentation,* vol. 10, no. 3, July 1959, pp. 228–231.

BURTON, ROBERT E.
Citations in American engineering journals. 3: Metallurgical engineering. *American Documentation,* vol. 10, no. 3, July 1959, pp. 209–213.

CHATTERJI, N. N.
Periodicals in the field of agriculture. *Indian Librarian,* vol. 13, no. 4, March 1959, pp. 142–165.

FADEN, B. R.
Information retrieval: punched card techniques and special equipment. *Special Libraries,* vol. 50, no. 6, July–August 1959, pp. 244–249.

FISHER, EVA LOU
Abbreviations of Russian scientific serial publications. *American Documentation,* vol. 10, no. 3, July 1959, pp. 192–208.

FRANK, OTTO
Anwendung der Lichtpaustechnik in Bibliotheken und Dokumentationsstellen. *Dokumentation Fachbibliothek Werksbücherei,* vol. 7, no. 5, July 1959, pp. 157–160.

FREITAG, WOLFGANG M.
Non-library periodicals for library technical services. *Library Resources and Technical Services,* vol. 3, no. 3, Summer 1959, pp. 215–222.

GRIFFIN, MARJORIE
Planning the new library: the IBM Research Library. *Special Libraries,* vol. 50, no. 6, July–August 1959, pp. 255–259.

HARTH, ROBERT
Kostensparende Planung und Organisation einer Dokumentationsstelle. *Nachrichten für Dokumentation,* vol. 10, no. 3, July 1959, pp. 75–85.

HIGDON, THOMAS D., *and* BISHOP, DAVID
Advances in medical bibliographic control, 1954–1958. Part 1. *Bulletin of the Medical Library Association,* vol. 47, no. 3, July 1959, pp. 274–287.

IGOT, MARIE-JEANNE
Pourquoi, pour qui, comment organiser la documentation phonographique? *La Documentation en France,* vol. 27, no. 2, March–April 1959, pp. 9–14.

JAPAN. National Committee for Documentation.
Scientific and technical information services in Japan. *American Documentation,* vol. 10, no. 3, July 1959, pp. 176–191.

JAVITZ, ROMANA
A check list on the organization of picture collections. *Special Libraries,* vol. 50, no. 6, July–August 1959, pp. 252–254.

JUMPELT, R. W.
Register of specialist translators in Western Germany. *Babel,* vol. 5, no. 2, June 1959, pp. 119–121.

LEWIS, HARRY F.
The deterioration of book paper in library use. *American Archivist,* vol. 22, no. 3, July 1959, pp. 309–322.

LOOSJES, TH. P.
Organisation und Dienste der holländischen Dokumentationszentrale für die Landwirtschaft. *Nachrichten für Dokumentation,* vol. 10, no. 2, July 1959, pp. 59–65.

LUNDY, FRANK A.
The divisional plan library: origins and development, present meaning and future potential. *Aspects of Librarianship,* no. 18, 1959, 8 pp.

LA MICROCOPIE en France dans les bibliothèques, archives et centres de documentation, (fin). *Bulletin des Bibliothèques de France,* vol. 4, no. 5, May 1959, pp. 229–248.

NAGARAJAN, K. S.
Production and use of microcopies: need for standard practice. *Annals of Library Science,* vol. 6, no. 1, March 1959, pp. 21–32.

NIKOLAEVA, T. M.
Soviet developments in machine translation: Russian sentence analysis. *Mechanical Translation,* vol. 5, no. 2, November 1958, pp. 51–59.

ORR, RICHARD H.
An integrated approach to documentation. *American Documentation,* vol. 10, no. 3, July 1959, pp. 214–220.

RANGANATHAN, S. R.
International catalogue code. *Annals of Library Science*, vol. 6, no. 1, March 1959, pp. 13–20.

RAO, C. V. SUBBA
A charging system for maps. *IASLIC Bulletin*, vol. 4, no. 2, June 1959, pp. 64–67.

SENGUPTA, BENOYENDRA
Certain suggestions and rules for rendering Indic names in catalogue entries. *Indian Librarian*, vol. 13, no. 4, March 1959, pp. 134–139.

SHANK, RUSSELL
Library service to research laboratories of a large university. *American Documentation*, vol. 10, no. 3, July 1959, pp. 221–223.
Special libraries of New South Wales. *The Australian Library Journal*, vol. 8, no. 2, April 1959, pp. 65–69.

TOBER, EDWARD P.
Alternative costs of keeping learned journals in print. *Publishers Weekly*, vol. 176, no. 1, July 6, 1959, pp. 86–87.

TREYZ, JOSEPH H.
The Xerox process and its application at Yale. *Library Resources and Technical Services*, vol. 3, no. 3, Summer 1959, pp. 223–229.

URQUHART, D. J.
The U.K. National Lending Library for Science and Technology. *Unesco Bulletin for Libraries*, vol. 13, no. 8–9, August–September 1959, pp. 173–175.

All the above items may be borrowed from Aslib Library, except those marked with an asterisk. Most of these are available for consultation in the Library, apart from a few for which locations in other libraries can be given.

MEMBERS' ADVERTISEMENTS

TRANSLATIONS. Technical and Commercial, from German and French, promptly executed by experienced man (on Aslib register of specialist translators). H. B. Andrews, F.R.S.A., F.I.L., 43 Wansunt Road, Bexley, Kent. Crayford 23071.

TRANSLATIONS, TECHNICAL, SCIENTIFIC, all languages, by specialists with sound technical and scientific qualifications. J. Smuts, B.SC.(ENGIN.), F.I.L., 140 Wightman Road, London, N.8. Tel. STAmford Hill 8564.

TRANSLATOR, F.I.L., Englishman, fluent German, French, and Spanish, long experience technical export sales promotion, power plant and industrial machinery, also post-war research, information science and technology, seeks change to London or South. Box 1259, Aslib, 3 Belgrave Square, London, S.W.1.

Appointments vacant

ASSISTANT LIBRARIAN required by the ATOMIC WEAPONS RESEARCH ESTABLISHMENT, Foulness, Essex, to act as deputy to the librarian and perform general library duties, including the preparation of scientific bibliographies. A G.C.E. in five subjects, including English language, at O level and two scientific or mathematical subjects at A level or equivalent qualification is required. Associateship of the Library Association, a pass degree in a scientific subject or experience in a special library would be an advantage. Salary £410 (at age 18) to £725 (at age 26 or over) to £885. Contributory superannuation scheme. A house or substantial assistance with house purchase will become available for married officers living beyond daily travelling distance. POSTCARDS for application forms to the Senior Recruitment Officer at A.W.R.E., Aldermaston, Berks, quoting reference 2406/205.

A. BOAKE, ROBERTS & CO. LTD. require a SENIOR TECHNICAL LIBRARIAN (male or female). Work includes the preparation of abstracts and bibliographies on chemical subjects, and responsibility for general maintenance of the library. Chemical degree desirable, but G.C.E. (A) in chemistry essential. Salary range £700–£850. Apply to Director of Research, Carpenters Road, London, E.15.

BRITISH OXYGEN RESEARCH AND DEVELOPMENT LIMITED have a vacancy for a full-time TRANSLATOR. Applicants must have experience of translating scientific and technical material from Russian and German into English. A knowledge of other languages particularly French, Italian, and Dutch would be an advantage. Please write to the Secretary, British Oxygen Research and Development Ltd, Deer Park Road, London, S.W.19.

BRUCE PEEBLES & CO. LTD, East Pilton, Edinburgh 5, require a TECHNICAL INFORMATION OFFICER to take charge of and develop library and information services. Applicants should have a degree or equivalent in electrical engineering and library experience would be an advantage, but specialized training could be arranged. The Company manufacture heavy electrical plant and industrial electronic equipment. Experience in those fields would also be an advantage. The starting salary will be in the range £900–£1,000 according to experience. Applications should be addressed to the Divisional Director (Engineering).

D.S.I.R. requires SENIOR SCIENTIFIC/SCIENTIFIC OFFICER to assist in development of National Lending Library for Science and Technology. Opportunity to study literature of special subject. Location London until 1961 then Boston Spa, Yorkshire. Qualifications: 1st or 2nd class Hons. degree in science or technology and (for S.S.O.) at least three years' approp. post-grad. exp. Starting salary in range (men) £655–£1,150 (S.O.) £1,233–£1,460 (S.S.O.). Normal prospects of promotion to Principal S.O. in mid-thirties and, whilst under age 31, of establishment. Forms from M.L.N.S., Technical and Scientific Register (K), 26 King Street, London, S.W.1 (quote A374/9A). Closing date 23 October 1959.

ENGLISH ELECTRIC. Openings have arisen at the Company's Whetstone and Rugby Technical libraries for CHARTERED LIBRARIANS. Particular appointments are:

Classifier and publications editor, who will be responsible for the classification of technical books, reports and articles, using both UDC and faceted system of classification which is under development. Other duties will include editing the library's publications including a weekly information bulletin and a monthly abstract bulletin of Company reports. Applicants for this appointment should have experience in classifying and cataloguing technical publications, and preference will be given to those holding Part 4, Section C of the final examination of the Library Association, or those having some particular knowledge of facet analysis.

Loans assistant, whose duties will include assistance to readers in the use of catalogues and other library tools. Applicants should preferably have some experience in public, commercial, or special libraries, although those without such experience will certainly be considered. Please write to Dept. C.P.S., Marconi House, 336–7 Strand, London, W.C.2, giving full details and quoting reference AP1916B.

GLAXO LABORATORIES LTD require an ASSISTANT LIBRARIAN for their Research Establishment at Stoke Poges, Bucks. Applications are invited from women in their twenties who have a knowledge of French and German and are able to type. Experience in a biological or medical library and the possession of the Library Association Registration examination would be advantageous. The commencing salary will be fitted to the experience of the successful applicant and the company offers good conditions of service including a five-day week, pension and bonus schemes. Apply in writing to the Personnel Officer, Glaxo Laboratories Ltd, Greenford, Middlesex.

LIBRARY ASSISTANT required by THE ALUMINIUM DEVELOPMENT ASSOCIATION. The work consists mainly of library correspondence and indexing, for which good typing is essential. There is scope for the acquisition of experience in library methods including classification, etc. Applicants must have obtained G.C.E. or equivalent in English, and at least one language; and should have passed in physics, chemistry, or general science. Commencing salary £8 to £8 10*s*. according to qualifications and experience. Applications to be addressed to The Technical Director, The Aluminium Development Association, 33 Grosvenor Street, London, W.1.

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ASLIB PROCEEDINGS

incorporating Aslib Information

Volume 11 **November 1959** **Number 11**

ASLIB CALENDAR

NOVEMBER

TUESDAY 24th. Midlands Branch meeting. 'The Aslib research programme', by C. W. Hanson.

WEDNESDAY 25th. Film Production Librarians Group meeting. 'The search for cinema', by L. O'Leary.

DECEMBER

WEDNESDAY 2nd. Course on information department publications. See paragraph below.

WEDNESDAY 9th. Conference on building information. See paragraph below.

FRIDAY 11th. Engineering Translators' Section meeting. 'The translator's job—three aspects.'

1960

JANUARY

TUESDAY 19th. Midlands Branch meeting. 'The City of Birmingham Information Department', by A. Hughes.

FRIDAY 29th. Engineering Translators' Section meeting. 'Subject knowledge versus linguistic knowledge', by A. G. Readett.

APRIL

FRIDAY 8th – SUNDAY 10th. Aeronautical Group Conference at Cranfield.

MAY

FRIDAY 6th – SUNDAY 8th. Electronics Group conference.

Sir Henry Tizard

Aslib received with regret news of the death on 9th October of Sir Henry Tizard, G.C.B., A.F.C., F.R.S. Sir Henry was President of Aslib from 1930 to 1932 and a Vice-President from 1949 to 1955. In 1920 he became Assistant Secretary and later Secretary of the Department of Scientific and Industrial Research, and among other important offices which he held during the course of a brilliant career were Rector of the Imperial College of Science, Chairman of the Government Scientific Advisory Policy Committee, and President of the British Association.

Annual Conference

The Thirty-fourth Annual Conference was held in the Grand Hotel, Scarborough, from 5th to 7th October. A record attendance of more than 300 delegates heard papers given by leading authorities: on the handling and use of technical information, document reproduction, advanced textbooks for industry, and the organization of libraries in the United Kingdom, on the Farmington Plan of America, Japanese sources of scientific and technical information, and the experiences of an information officer visiting Moscow. The weather was good and some of the delegates even enjoyed morning bathing among the North Sea rollers. Hotel service was not always as good as would be expected, but in other respects the conference programme ran smoothly and the arrangement of a relief train to carry delegates back to London was appreciated, some amusement being caused by remarks from racegoers who joined the train at York and apparently mistook Aslib members for a pre-election party of politicians.

It is hoped to publish the papers given at the conference, with reports of discussions in the next two issues of *Aslib Proceedings,* December 1959 and January 1960.

Course on Information Department Publications

A one-day course on the compilation and production of information department publications will be held on Wednesday 2nd December at Aslib. The syllabus will be similar to that for the courses held in April and June, with three lectures: on aims and principals in the preparation of material, on compilation and utilization of material, and on methods of production. There will be a session for critical appraisal of typical publications conducted by C. W. Hanson, Head of Aslib Research Department. The lecturers will be K. Boodson, Librarian, ICI Metals Division; D. Ball of Albert E. Reed & Co. Ltd, Packaging Research and Development Division; and H. R. Verry, H M Treasury, O & M Division. The fee for the course will be 3 guineas. Application should be made as soon as possible to the Meetings Organizer, Aslib.

Conference on building information

A one-day conference on information in the building industry will be held on Wednesday 9th December at the Connaught Rooms, Great Queen Street, London. Papers to be given at the morning session will deal with existing services and users' needs. The afternoon will be devoted to a discussion among speakers representing the customers (architects, builders, surveyors, engineers, manufacturers) and the purveyors (information officers, librarians, editors, publishers) followed by the Chairman's summary. Speakers will include B. Agard Evans, Chief Librarian, Ministry of Works; W. Kieth Martin, Martin and Saunders Ltd; Miss Barbara Kyle, National Book League; Ove Arup, C.B.E., M.ING.F., M.I.C.E., M.I.STRUCT.E., Ove Arup and Partners; Dargan Bullivant, DIP.ENG., A.A.DIP., A.R.I.B.A.; Richard Eve, B.ARCH., A.R.I.B.A.; N. Stanley Farrow, M.B.E., F.I.O.B., Howard Farrow Ltd; B. D. Dottridge, Standard Catalogue Co. Ltd; Gontran I. Goulden, A.R.I.B.A., The Building Centre; W. Greville Griffiths, M.A., B. T. Batsford Ltd; and Gordon H. Wright, A.L.A., Hatfield Technical College. Norman Longley, C.B.E., James Longley and Co. Ltd, will take the chair for the morning session and the Rt Hon. the Earl of Verulam, M.A., COMP.I.E.E., J.P., will preside. Members wishing to attend this conference should advise the Meetings Organizer, Aslib, as soon as possible. The fee will be 30*s.* including lunch.

Film Production Librarians Group

At a meeting held on 16th September Mr J. Southgate of Associated Rediffusion Ltd gave a short talk on video tape recording. He outlined the technical features of machines now in use and discussed their effect on television broadcasting technique. Problems of editing and storage of video tape recordings were considered in discussion, as were the effects of temperature and humidity changes on the tape.

Textile Group

The Committee of the Textile Group is considering the formation of a panel to examine and discuss the UDC textile classification. Any member of the group who would be interested in participating in the work of such a panel is asked to contact the Hon. Secretary, T. R. Roxby, ICI (Hyde) Ltd, Newton Works, Hyde, Cheshire.

Aslib Year Book 1959–60

Production of the *Year Book* was delayed by the recent dispute in the printing industry, but it is now available. Members who have placed standing orders should already have received their copies. Others should order as soon as possible from Aslib, 3 Belgrave Square, London, S.W.1. The price of the *Year Book* is 12*s.* 6*d.* to members, 18*s.* to non-members.

New British Standard

British Standards Institution have announced the publication of BS 3138: *Glossary of terms in work study,* which aims to provide the basis for a common language for those concerned with the application of work study in Britain. The language of work study has suffered increasingly from lack of uniformity—as the foreword to BS 3138 points out, 'new words have been created to avoid long explanations, common words have been given special meanings; and sometimes the same words have come to mean different things'. The new standard glossary has been seven years in the making. It comprises three parts. The first defines three general terms: 'work study', 'method study', and 'work measurement'. The second defines terms recommended for use in method study, and the third contains terms and definitions relating to work measurement. BS 3138 may be obtained from the British Standards Institution, Sales Branch, 2 Park Street, London, W.1, price 7*s.* 6*d.*, postage extra to non-subscribers.

National Central Library

The National Central Library has recently published its annual report for the year 1958–9. This shows a decrease in the number of requests for loans, which is attributed to better provision by individual libraries and the regional systems, and that such requests have been concentrated on more specialized and less accessible material. Increases in international loans and in the volume of work of the British National Book Centre are also reported.

Microfilm Cameras free of charge

Microfilm cameras are now available free of charge to research libraries able to make reasonable use of them and willing to provide film copies free or at low cost, within the provisions of the Copyright Act. The cameras are semi-automatic and capable of producing 500–600 frames (1000–1200 pages) per hour. Darkroom facilities are needed for loading, unloading, and processing. Applicants must therefore have a considerable demand for microfilm and a skilled photographer must be available if film is to be processed within the organization. The cameras are manufactured by Micro Methods Ltd. They will not normally be given free to profit-making libraries but will be available, later, for purchase through normal commercial channels. Applications for cameras should be addressed to R. G. Griffin, Librarian, The Chemical Society, Burlington House, London, W.1.

Index of medical literature

The American Medical Association (AMA) and the United States Public Health Service's National Library of Medicine (NLM) in Washington have announced a new programme for indexing medical literature, to begin on 1st January 1960 and to cover 220,000 articles annually. It is reported that a new type of camera capable of photographing text material at a speed of 230 cards per minute is to be used in the process. AMA will discontinue publication of the *Quarterly cumulative index medicus* but the *Current list of medical literature* published by NLM will be expanded to include current medical periodicals and will be renamed *Index medicus*. AMA will publish a *Cumulated index medicus* annually, commencing with the volume for the calendar year 1960. *Index medicus* will be published monthly and will be available on a subscription basis through the Superintendent of Documents, Government Printing Office, Washington 25, DC, USA.

International Conference on Machine Searching and Translation

At the closing session of the International Conference for Standards on a Common Language for Machine Searching and Translation, held at Cleveland, Ohio, in September (see *Aslib Proceedings*, vol. 11, no. 4, page 83) an international committee was set up to continue the work of the conference through investigations in this field. Secretary of the committee is Mr Allen Kent, associate director of the Center for Documentation and Communication Research, Western Reserve University, and the elected Chairman is Mr Brian Vickery. Mr Vickery has been closely concerned with the work of Aslib for many years, having served on conference and advisory committees and contributed papers to Aslib meetings and publications on many occasions.

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Aslib Aeronautical Group Conference, Cranfield, 3rd–5th April 1959

INTRODUCTION

THIS paper is a condensed version of Part 2 of 'The place of the library in a guided missile organization' given at the Aslib Aeronautical Group eighth annual conference, College of Aeronautics, Cranfield, 3rd–5th April 1959.

Part 1 was entitled 'The technical environment', and was given by Mr J. E. Allen, B.SC.(ENG.), A.F.R.AE.S., A.M.I.MECH.E., A.F.I.A.S., of A. V. Roe & Co. Limited, Weapons Research Division. Mr Allen, illustrating his talk with slides, described the growth of the aircraft and missile industries from the pre-1914 era to date, and outlined the part which can be played nowadays by a library and information service in a typical guided missile organization. He suggested the following 'operational requirements' for a library service:

1. Assistance in the prevention of the duplication of costly experiments already carried out elsewhere, whether reported in documents, periodicals, books, etc., or ascertainable by inquiry from specialist establishments.
2. The collection, organization and dissemination of new information on all subjects of special interest to the company.
3. The handling of complete literature searches on behalf of technical personnel.
4. The provision of reference facilities for the consultation of library materials by the technical personnel themselves.
5. The handling of inquiries for specific working data in relevant subject fields from all personnel, from the management to the factory worker.

LIBRARY AND INFORMATION SERVICE

The chairman has referred to 'G. W. Librarianship'. I do not, however, propose to talk of the art of librarianship, for this would be preaching to the converted. The purpose of this Conference is to discuss common problems, and it is hoped that the papers prepared by Mr Allen and myself will fit into this context, since they seek to present the activities, viewpoints, and problems of one sample organization in the missile industry.

Mr Allen has described the technical environment of the library, has reviewed its history, and has given certain basic 'operational requirements' for the sort of service that he, as a missile engineer, has a right to expect. It remains for me to describe the library and information service itself, and to show how we are attempting to meet those requirements. Mr Allen was mainly responsible for the foundation of the service during 1954, and it is attached to his department, although the whole Division is served. My predecessor, Miss O. M. Leach, was responsible for the actual work of building up a library service from nothing. We are concerned only with technical information, and we work closely with the technical groups.

Having been in existence for only four complete years, the collections are by no means large. Documents form the largest collection, and a substantial proportion are on aerodynamics. The main subject bias in the books and periodicals fields is towards electronics and instruments, while in specifications and trade catalogues it is naturally towards engineering materials and processes, and components of all kinds. Our long-term programme is the reinforcement of our stocks to make the service more efficient and authoritative in its special field. Meanwhile, we try to obtain all essential new information and wield it effectively, and to tap local and national resources for information in fringe subjects such as chemistry or plastics technology.

Our issues last year were a little over 13,000 as compared with 8,800 in 1957. Obviously, we are still in the growing stage. A graph (p. 283) shows the rise in issues of principal types of material since the foundation of the library. These figures do not, of course, include periodicals circulations. Recently we carried out a survey of visitors to the library. During the ten working days involved, 1,200 visitors were recorded, an average of 120 per day. An analysis by department showed that the figures were well related to the estimated information needs of each department. Many queries are answered, but we keep no statistical record of these. To do all this, we work as a team, and the team includes an Information Officer, an Assistant Librarian, and several assistants.

We also have a Technical Report Section, where the Division's own research documents are typed, collated and issued, and a Photocopying Section which provides a service to the Division. There is an associated information service at our Chertsey office, the ordering, classification and cataloguing being centralized at Woodford. There is also a small collection at our Kingston office. In short, the work done by the library service makes us feel that, in spite of our small size, we are making a considerable contribution to the Division's total efforts.

Now I shall consider the functions with which we attempt to meet the 'operational requirements' already stated. You will have noted that our title is 'The W.R.D. Library and Information Service', and you may have wondered why we use two terms which are usually considered synonymous. All libraries exist to provide an information service, and all information services are based on libraries. There are three reasons for the inclusion of the words 'and Information Service':

Firstly, as a reminder that the provision of information is our principal aim,
Secondly, to cover the work of the technical report section and the photocopying section, and
Thirdly, to cover special aspects of our service which we like to call dynamic.

These dynamic aspects or functions will take a little longer to explain. In these days, it is generally understood that any special library seeks to:

Order new material in anticipation of requests;
Classify and catalogue the publications and make them available for loan;
Produce bulletins reporting new accessions, and bibliographies on topics of special interest;

Satisfy subject inquiries, and requests for bibliographical references either from stock, by purchase, or by borrowing from another library;

Provide reading or reference accommodation for on-the-spot consultation of the stock by the technical personnel themselves;

Circulate periodicals regularly to interested personnel, and provide a photocopying service;

Index, file, and sometimes produce and distribute, the parent organization's own research documents.

In an industrial special library certain dynamic functions which are impossible for general public libraries and difficult for the larger special libraries can be added. At Woodford, the first of these is the automatic distribution of important new material, especially documents, without waiting for requests. Important publications therefore reach key personnel as early as possible, and before the bulletin reports their addition to the library. A file of subject interests is maintained by the Information Officer who assigns most of the automatic distributions.

The second is the scanning of new periodicals to make a select information index to principal articles. The senior staff share in this venture, the division being on a subject basis. Entries are made in manuscript on cards, and *ad hoc* subject headings are assigned. The main purpose is to speed up literature searching in that no-man's-land between the abstracts and the up-to-date material. We have no time to make abstracts on our cards, but we do sometimes add explanatory notes when titles are ambiguous. About every two weeks the latest batch of cards is edited, and rearranged under broad subject headings to produce a select contents list, which we call the *Periodicals Review*. This venture was started a year ago and has met with a fair degree of success, judging by the requests we receive, as indicated in the graph. The cards, when finally filed, are extremely useful to us for information searches. Some of the cards do not go into the general sequence but go instead into several 'running bibliographies', for example, Reliability or Vibration. The *Review* publicizes articles which may well not reach personnel via periodicals circulations, since one can hardly circulate all the periodicals to all the personnel!

The third dynamic function is the holding of information meetings on topics affecting more than one group. This gives us a clear idea of subject interests, and assists the co-ordination of information flow from the library and between personnel. A bibliography is prepared before each meeting.

PROBLEMS

Our main problems are identical with those set out in the draft paper on technical information under discussion at this Conference, and a few general comments on these would not be out of place. Our detailed comments have been made already in the Panel discussions. These problems are basically three in number: finding out what documents are available; gaining access to copies of important documents which are in great demand, especially from overseas; and general budgetary limitations.

Documents

First of all, I wish to acknowledge the work of The Ministry of Supply Technical Information and Library Services (TIL) who are doing an excellent job on behalf of contractors. They have an automatic distribution system which goes some way towards compensating for the difficulty of discovering just what documents are available. Their indexes are thrown open to us, in accordance with need-to-know; they will help with subject inquiries, and when the word 'urgent' is used—without crying 'wolf'—they respond magnificently.

The difficulty of gaining news of all foreign classified references is just one that we have to live with, for there can be no solution, other than the services provided by TIL just described. There are, of course, recognized bibliographical tools which help us with unclassified documents, for example, the periodical *U.S. Government research reports*. However, even when interesting unclassified references are seen, this does not mean that they are easily accessible. No copies may have reached the United Kingdom, and there may be much delay in obtaining documents which are nominally available. Some organizations in the United Kingdom have entered into exchange arrangements with overseas bodies, especially with educational institutions. This seems to be a good scheme, provided we in the industry have a means of learning which documents have been received in this way, namely, the perusal of unclassified accession lists from the organizations concerned.

It would be far better if, instead of wading through accession lists, we could refer to one central source of document information. TIL is the logical nucleus of such a source. Suitably expanded, they could make their indexes cover all known unpublished documents available in this country. Libraries obtaining unclassified documents directly from overseas could register them with TIL. The TIL might also increase their coverage of British reports.

The number of copies problem is the most serious one. Lengthy delays result from the inadequate number of copies of United States industrial reports. Even worse are the delays which occur when there are *no* copies in TIL, and one must wait until copies can be obtained from overseas. In many cases it would appear that the overseas sources have either exhausted their supplies or lost the request somewhere in the complicated machinery of distribution. To return to the documents which *are* received by TIL, if negotiations were made for the supply of a larger number of copies of every document, serious handling and storage difficulties would result, and some of the documents might not in any event be worth the extra trouble. The only immediate solutions seem to be more extensive photocopying and more staff in TIL, but these cost money.

Budgetary limitations

We all suffer from these. The financial position of libraries has always been somewhat precarious, because we are unable to describe our output in concrete financial terms. In other industries, special libraries are gaining wider acceptance; more and more firms are establishing their own services. The aircraft industry, however, is mainly dependent on government contracts, and the funds available for expenditure outside the contracts are limited.

Mr Allen has given us an historical outline of the growth of the aircraft industry. The early pioneers were working ahead of published information, and had little need of special library services. Since then, the industry has become a vast complex, drawing together subject specialists from many fields. Each unit in the industry, and each country involved, is striving for technological progress. The aim is to get ahead, but in order to do this the companies must first ensure that they keep abreast of developments in all the subject fields involved.

There are various means of keeping abreast, and no single way is sufficient. The recorded information obtained, organized, and disseminated by libraries—and professional meetings, conferences, or other forms of personal contact between specialists—are the key features of communication. Without effective communication, it is doubtful whether any industry can survive for long in the modern world.

It seems logical that, when libraries are assisting firms to maintain communication, to avoid the duplication of costly experiments, and to increase their productivity and creativity, their cost should be regarded as fully justifiable.

Foreign material

Another of our problems is that of trying to keep up to date with foreign periodical articles. In particular we wish to watch the Soviet field, for the others are quite well covered by *Index Aeronauticus, Science Abstracts,* and so on.

Two years ago we began scanning *Soviet Abstracts: Mechanics,* which was issued by the Ministry, and the DSIR *Translated Contents Lists of Russian Periodicals.* During that period we were supplied with several translations by TIL. Now that the DSIR List has ceased publication we scan the Library of Congress *Monthly Index of Russian Accessions.* This seems to us the most economical way of watching the Russian periodicals field, for the cover-to-cover translations are expensive.

INFORMATION RETRIEVAL

We use the Universal Decimal Classification for documents, books, and pamphlets, and we have a classified catalogue.

It is sometimes argued against UDC that it is by no means universal. No one ever thought that it could be. The term 'Universal' refers to its application to all types of material and all knowledge. The use of a classification scheme is always adjusted in relation to the special needs of each library, and differing subject emphases, previous policy, and even individual opinions cause variations from library to library. In spite of the variations in classification practice, the basic structure of the scheme is common to the libraries using it. We ourselves find that it is rarely possible to use a classification number assigned by another library, but such numbers are nevertheless always capable of interpretation, and often provide a useful guide in assigning our own numbers.

No classification scheme can be perfect, but the UDC seems to be the best of those available. We have tried to make up for some of the imperfections by developing our own expansion of 533.6 Aerodynamics, and our own Guided Missiles scheme based on 623.450. The Aerodynamics expansion was constructed to meet our own special requirements by the aerodynamicists in co-operation with the library. It is used as an indexing system rather than a classification scheme, for all important parts of each document are given added entries, and there is no fixed limit to the total number of entries per document.

An aerodynamics document may therefore have as many as ten or twelve class numbers. The scheme has been in use at Woodford for two years.

The Guided Missiles scheme is of a different type. Unlike the Aerodynamics scheme, which is a detailed expansion of one special subject, the Guided Missiles classification is intended to draw together material on the subjects most applicable to guided missiles. The scheme therefore duplicates many of the places in the UDC itself. The numbers for guided missiles and their types, however, replace the UDC. In the latter, the auxiliary '—519' denotes guided missiles throughout 623.451. This is obviously inadequate for a special missile library. The parts of the scheme which duplicate the UDC are those which cover, for example, Propulsion Systems, and Electronics.

The duplication is handled in the following way. Material on the design and operation of a propulsion system as such goes into the appropriate division of 621.45; if it also deals with the specific application of the system to guided missiles as, for example, a main propulsion unit, it goes *also* into our special place. Material dealing with the applications of propulsion systems to guided missiles, without treating design and operation in detail, goes *only* into the appropriate place in our special scheme. The Electronics class is for material covering missiles systems, the detailed operation and design of those systems being classified by ordinary U D C.

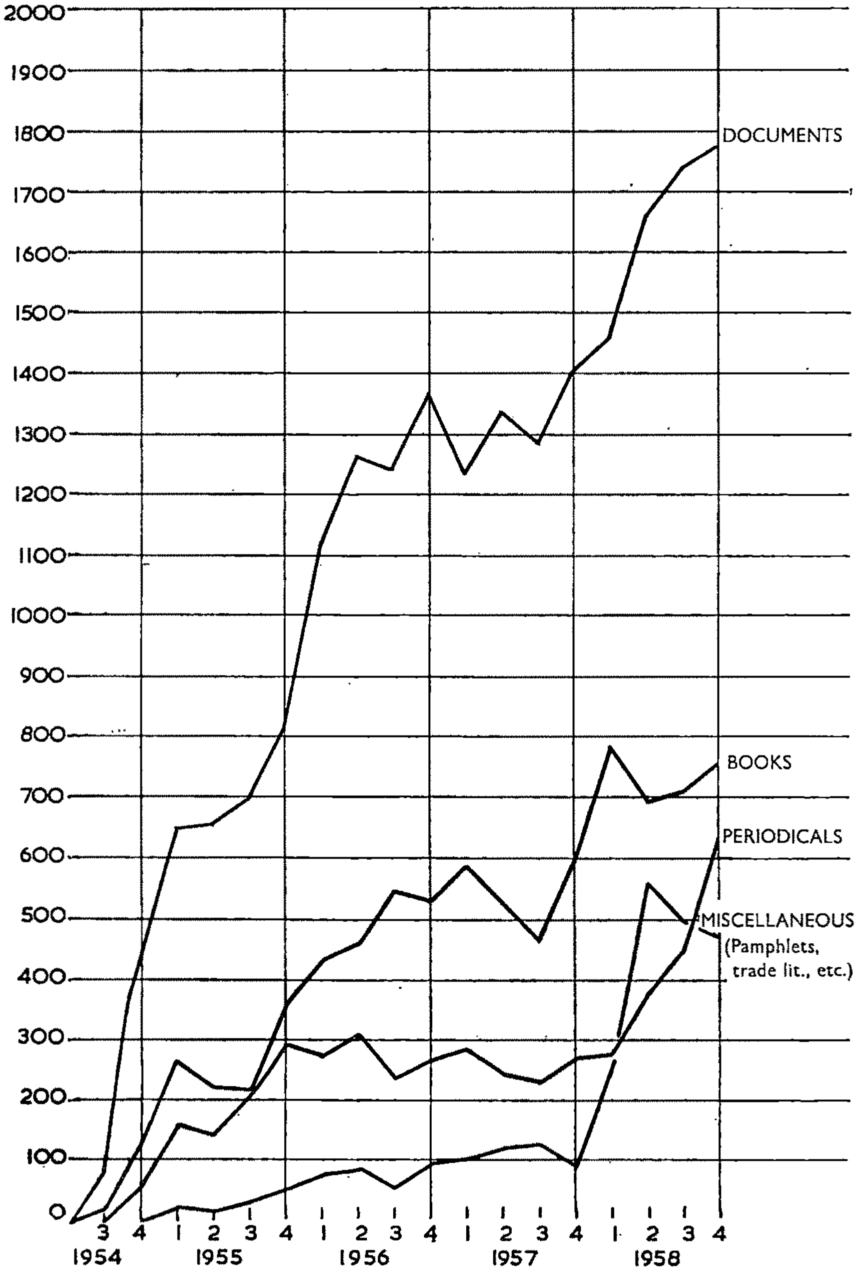
All this does not mean that we are finally and irrevocably committed to UDC as far as the documents collection is concerned, although we would not, of course, change our system without proof of the overwhelming superiority of another system. The investigation now being carried out here at Cranfield is an extremely useful venture from our point of view, and we look forward to learning the final results.

INQUIRERS AND STAFF

The development of the right relationship between inquirers and staff is very important. To the inquirer, however small the question it is nevertheless a problem with which help is needed. The staff should be motivated by the idea of service—not servility, but prompt, efficient, and impersonal service. Subject inquiries, whether stated to be urgent or not, are always dealt with as soon as possible. At the same time, the routine systems cannot be allowed to suffer, for they are all part of the pattern. At Woodford we endeavour to achieve smooth running by having on the staff an Information Officer, who in addition to her work of classifying the documents collection can specialize in information searching.

We try to avoid letting inquirers go away with exactly what they ask for, for usually it is by no means suitable or adequate. As in other libraries, a little inquisition has to be conducted to discover just what the inquirer really needs. A specialist is inclined to look upon all information from his own subject channel, so to speak, and it is part of our job to help him to communicate with other channels. At the same time, his special knowledge is useful to us—we welcome expert advice on new books of doubtful interest, and we often receive help with inquiries which cannot be satisfied from recorded sources.

We are all familiar with the queries which are sometimes too general, for example, 'electric motors', when the inquirer may be called upon to explain the



A. V. Roe & Co. Ltd, Weapons Research Division, library circulation (by quarterly totals).

size, purpose, whether a.c. or d.c., and whether he wishes to know the principles and applications or wants to find a suitable one to buy. On the other hand, a query may be too specific, or apparently so; for example, one could not conduct an efficient search on 'anti-vibration mountings' without knowing the inquirer's purpose. I have not quoted examples from aerodynamics, for in our experience aerodynamicists are fully information-conscious and know how to frame their inquiries.

All library users should be shown that they are quite welcome, and indeed fully entitled, to the service. No doubt you have all seen newcomers enter the library as though they would rather die a thousand deaths than ask a question. While the work of the library must be done efficiently, the efficiency must be unobtrusive. The library 'atmosphere' should be palatable to the staff and to the users, and be capable of supporting friendly co-operation.

PROGRESS OF A LIBRARY SERVICE

I would suggest that the successful running and future progress of any library service depends mainly on three factors:

1. The quality of the staff. Unless the staff are capable of assisting users to exploit the resources of the library, those resources may be largely wasted, and valuable information may remain hidden. The staff function best as a team, and we consider ourselves fortunate in having a good team.
2. An adequate supply of new material, adjusted in relation to the growth of interests and the growth of the firm itself.
3. The library's success in helping the organization. The best publicity is good service.

I have endeavoured to describe our service and our points of view. We are proud of the progress made in only four complete years. We make no extravagant claims for the service, however, for we are well aware that although we aim high the sources of information are so complex that the perfect information service is impossible. With the ever-increasing rate of technical publishing there is a danger that we may fall further and further short of our target through lack of the necessary means for expansion. However, there is such a vast flow of new information, even in the most specialized subjects, that one could spend large sums in endeavouring to build up a service capable of covering it fully. Fortunately, we are able to restrict our intake of new material to a few of the most important subjects or aspects, relying upon co-operation for the rest. No special library can hope to stand alone, even in its own field. Apart from the TIL services, we have so far relied on co-operation in four 'planes': within the Hawker Siddeley Group; within the Aslib Aeronautical Group; the local and national sources, whether public, educational or special; and the services of LADSIRLAC,* H.K. Lewis and Aslib.

The drawback to co-operation between special libraries is that their first responsibility is to the parent organization, and decisions to lend material are therefore made with caution, to avoid the risk of important information being absent when urgently required. Subject to this consideration, we ourselves are quite prepared to lend our stock of books and periodicals on a reciprocal basis. We hope that the future will make it possible for library budgets to be regarded

* Liverpool and District Scientific, Industrial and Research Library Advisory Council.

more favourably throughout the industry. It would seem that there must also be a trend towards closer and closer co-operation, for without it we cannot hope to provide information services which are both comprehensive and economical.

In closing, I offer a few lines composed in imitation of Kipling, to whom I offer apologies:

If you help direct the flow of knowledge
To fertilize the minds of men;
If you know the arts of class. and cat.,
Bibliog., org. and admin., and all that;
If you can answer What, How, Why or When,
And find the facts they need,
With accuracy and speed;
If you can keep your head
When others about you are scratching theirs,
You'll be a librarian, my son!

INFORMATION FOR INDUSTRY

L. TAYLOR

Librarian, Industrial Gear Divisions, David Brown Industries Ltd

Huddersfield, 8th April 1959

INTRODUCTION

THE purpose of this paper is to describe the various types of information required, the sources available, the operation of a small information service, and methods of co-operative effort. Of necessity, therefore, it must be extensive in scope, and I must apologize at the outset for treating only briefly each aspect and for disregarding the particular problems of specific industries.

INFORMATION AND ITS SOURCES

Before we consider information services as such, however, let us make sure that we understand what we mean when we speak of 'technical and commercial information' and what form it may assume. It may appear as an article in a periodical; it may be found in a report by some research organization; manufacturers may quote it in their catalogues and advertisements; it might even be in your own firm's correspondence of years gone by. If it is of a commercial nature it may be the subject of a survey carried out by an independent organization or of a Board of Trade circular. In fact it may not exist in published form at all but solely as the brainchild of some experienced specialist and yet to be committed to paper.

From that alone it is obvious that the answers to the problems that confront individual firms today—be the problems or the firms large or small—are not necessarily to be found in bound works and may not even appear as the printed word. On the other hand, the problems should not be disregarded because the solutions prove elusive.

For the purpose of this meeting I have chosen to classify these problems in general terms into four categories—general reference, administrative, commercial, and technical—and in each of these categories the information available has been highly organized on a national scale.

GENERAL REFERENCE INFORMATION

For general reference information I might well say 'miscellaneous', for I use the term to cover the thousand and one small queries which arise in every firm day by day and which I used to consider the 'bread-and-butter' questions for the reference section of a small public library. Hotel addresses, manufacturers' addresses, shipping movements, currency exchange rates, the locale of a street in another town, railway train departure times—all of them trivial questions but all part and parcel of the business executive's daily round. All these queries are safely taken care of by a small set of general reference works and the local reference library.

ADMINISTRATIVE INFORMATION

Information on administrative questions I consider to be common to all of us, irrespective of the size and products of the firm. To this category belong problems of general management, finance and accounts, catering, welfare, health, safety and the like, to say nothing of industrial relations. For instance, with regard to the employer's responsibilities under the new Maintenance Orders, how many of you have expended the requisite one shilling on the explanatory notes for employers; how many of you, indeed, know that they have been published? Again, how many of you can ascertain quickly within your own organization your responsibilities for the safety of your employees?

Apart from the various Ministries and Government offices there are several authoritative information sources in this field. Most notable, perhaps, is the British Institute of Management, which operates an extensive library service and which also conducts very many research projects in the field of management. The Institute of Personnel Management, the Industrial Welfare Society and the Office Management Association all operate information services and, just as the British Institute of Management, issue several series of publications and periodicals in their respective fields.

COMMERCIAL INFORMATION

The commercial problems are far more important than the previous two categories in that they relate to the sale of the product, and on sales depend profits. For successful marketing the firm must keep in touch with commercial and industrial developments within its range of interests and activities. These may be confined to a similar section of home industry or may embrace many industries on an international scale. Information may be required on competitors' activities, producer and consumer market research, sales potential, raw materials, and general commercial information on tariffs and trade agreements.

Of course, much of this information can be obtained through the trade federation of the industry and the local Chamber of Commerce. In fact regular services in this field may be regarded as the *raison d'être* of such organizations. Other data are available in the trade journals; and in this connection the general 'chit-chats' and 'news of the week' columns are particularly useful. In my own firm, for example, both the sales department and the buyers derive much of their information from the small news items in *Iron & Coal Trades Review.*

Board of Trade

The principal source of commercial information is, not unnaturally, the Board of Trade. Although the BoT's journal contains many statistical data on raw materials, production and consumption, the additional services provided by the various departments are manifold. Probably the main channel for inquirers is the Export Services Branch, which collects all data on exports, particularly tariffs, and provides information on the suitability of foreign agents. It also issues the Special Register Service of Information which covers, in its four groups, trade openings and tenders, specific inquiries from buyers and agents, general economic reports on different countries, and information on foreign markets for particular commodities. The branch has a good collection of

British and foreign trade catalogues of which only the foreign ones are available for inspection. The British catalogues help the Board's staff in advising buyers of the most likely manufacturer to approach for the goods he wants. The ESB possesses also a library of overseas directories which, together with the extensive collections available at the Guildhall Library in London and the larger public libraries, are useful in particular for compiling mailing lists. Whereas the ESB collects information on commodities, the Country Branches collect information on single countries. One of their services is to provide the individual business man with a general picture of the conditions he is likely to encounter in a given country, whilst another is to meet foreign business men visiting the United Kingdom and to acquaint them with the likely prospects of buying British goods. The Statistics Library, which is open for public use, contains a collection of Commonwealth and foreign statistics covering trade returns, censuses of production and distribution, retail trade, and general statistical abstracts. Qualified statisticians are available to give proper interpretations.

Statistics are available also from H.M. Customs & Excise. These are published in the monthly *Trade and Navigation Accounts*—as a partial commodity break-down of United Kingdom imports and exports, listing only the main countries. The full figures are published one or two years later in the *Annual Statement of Trade*. As all this information is available on punched cards, lists can be supplied at any time more or less at the cost of printing. So far as statistics of production are concerned, figures are available also from the Ministry of Supply.

Other BoT services available include the Export Credit Guarantee Department and the Export Licensing Branch.

TECHNICAL INFORMATION

The types of information considered so far may be regarded as being of general application and interest. With technical information the aspects become far more diverse by virtue of the many types of industry concerned. The industrial interests of Huddersfield, for instance, may be described summarily as engineering, textile, and chemical, but this is by no means all-embracing. The information services available, therefore, are much more widespread, but it should be possible to present a fair comprehensive overall picture, for, irrespective of the end product, technical information falls arbitrarily into six groups: scientific theory, design, standards and specifications, materials, production techniques, and methods of testing.

Department of Scientific and Industrial Research

Technical information in this country is administered on a national scale largely by the Department of Scientific and Industrial Research, either directly or indirectly. The DSIR Headquarters information service contains one of the largest collections of Russian periodicals in this country and through the Technical Information and Documents Unit acts as a general clearing-house of technical inquiries from both industrial and scientific sources. The DSIR operates some fourteen research stations, the best known of which are perhaps the National Chemical Laboratory, the Mechanical Engineering Research Laboratory, the Building Research Station, and the National Physical Laboratory. Each research station has arrangements for answering technical inquiries in its own particular field and maintains a library chiefly for the benefit of its own research staff; in most cases, however, material is available for loan to outside bodies providing it is not easily available from other sources.

Research Associations

The DSIR makes grants to some forty-eight research associations and is entitled to bring their reports to the notice of Government Departments but not to make them available more generally. The extent to which a research association will help non-members varies considerably. Some deal with inquiries from non-members in the hope that they will become members; some will help non-members who are users of their members' products, whilst others provide similar assistance for a fee.

Universities

The realization often escapes us that much of the nation's research is carried out at our universities. Many of the professors have had wide experience in industry before taking up their apparently more academic roles, and much of the work undertaken is financed directly by industry or indirectly through the research associations. Here again, then, we have very useful sources of information; details of the various projects in hand are published annually by the DSIR in *Scientific Research in British Universities*.

British Standards Institution

A considerable proportion of technical inquiries relate to standards and specifications. These indeed present quite a problem to the larger organizations, many of which employ their own standards departments; hence the smaller organizations must expect to seek outside assistance in this sphere. The central source for this type of information is the British Standards Institution, which in addition to issuing its own standards acts as agent for all overseas standards organizations, including the International Organization for Standardization. Much valuable information is available from the secretaries of the various standards committees even prior to the issue of the actual standards themselves. Their publications are available from the London headquarters and from the provincial sales offices.

Patent Office

Patent specifications play an extremely important role in industry, to the extent that most large firms have set up their own patents departments, whilst smaller organizations usually engage the services of a chartered patents agent. Most of the more authoritative journals include abstracts of patents but these are by no means exhaustive in their coverage. Full coverage can be attained by contributing to the official patents periodicals, but for a small firm the expense of training in the study of patent specifications and procedure is hardly justified. The Patent Office issues abstracts of all British specifications and also indexes, but the printing of these is considerably in arrear. The principal source of

British patent information is obviously the Patent Office Library, which keeps also files of foreign patents and indexes of trade names and trade-marks. Much of the information available, however, can be obtained only through personal search; on the other hand, patent information is promulgated through the provincial public library system.

Institutions

The research stations and the research associations provide information that may be regarded as up to date in the light of current research. A valuable contribution to published information is to be found, however, in the proceedings and transactions of the various professional institutions and learned societies. These serve as forums for the reporting of research, and the discussions can often be interpreted as authoritative if sometimes critical appraisals of the data presented; many papers, too, present considerable advances in fundamental theory. All these organizations possess extensive libraries, but by and large serve better as sources for bound works than for more fugitive information.

General published sources

After the national sources of information we must consider the general published sources. These consist of textbooks, periodicals, abstracts, industrial literature, and bibliographies. For the sake of brevity, I choose to omit reports on the excuse that perhaps the majority of these emanate from the national sources already described.

The role of the textbook in technical information work is usually a fundamental one, albeit an important role at that. It has another very important function in assembling in orderly fashion and in proper relation to each other the consolidated details of a specialized branch of the subject. At the same time, textbooks are an expensive item in this modern age, to the extent that few small industrial concerns can afford to acquire more than those concerned directly with their own production field. Every industry has its standard works to which every manager and technologist—if he is honest with himself—must refer from time to time. In most well-established industrial information services the stock of textbooks is small relative to the size of the parent organization and the annual book purchase allowance is low relative to the total operating costs of the service. One reason for this, perhaps, is that practically every textbook contains only information that was available twelve months before publication at the very latest. Thus textbooks might be considered as serving primarily as basic works of reference only.

So far as periodicals are concerned, the national and international pictures are somewhat illusory. There are many periodicals devoted to every field of industrial activity and therefore there must be, and is, considerable repetition. Again, there is a modern tendency, particularly amongst the Americans and the Russians, to report on research projects at the various intermediary stages rather than to delay publication until decisive results have been obtained, to reach conclusions not entirely justified by the results, and again to treat at length adaptations of recognized techniques that have applications in only highly specialized and thereby strictly limited fields. Whether the responsibility for these faults rests entirely with the authors, with the editors or the refereeing panels is not for us to discuss here. It is obvious, therefore, that the time and effort expended by any business executive in reading all the periodical literature in his own field of interest would not be recompensed to any appreciable extent by the knowledge gained. So far as the technology of his own and allied interests are concerned, it may be that the managing director of a small firm can confine his regular personal reading to half a dozen periodicals which he can regard as authoritative. This must appear to be a somewhat sweeping statement, but we are considering firms with limited resources, and also I hope to make one or two suggestions later which will amplify this. Many of the editorial staffs of these periodicals can be extremely helpful, incidentally, with both technical and commercial information, particularly when up-to-the-minute data are required.

The onerous task of surveying the world's periodical literature can be lightened considerably by the use of abstracts, and it is here that the research associations, institutions and learned societies can help, as many of them issue collections of abstracts at monthly and quarterly intervals, adequately indexed, and those who do not, usually devote a large section of their monthly journal to abstracts of papers in the current literature. In some instances the abstracts are purely factual, but more often they are highly critical. It is possible also to subscribe to an abstracting service such as *Chemical Abstracts* or *Engineering Arts Index*, but for the small firm the outlay is high and perhaps not justified by the return if the interests are very limited. Again, abstracting services are operated by some book publishing houses but the same remarks regarding expense appertain.

So far we have considered, by and large, information that might have a price-tag, whether it be membership of a research association, the cost of a textbook, or a subscription to a learned society or a publisher. Yet some of the most valuable technical information is available in published form literally free for the asking. I refer, of course, to the countless publications of the manufacturers themselves. Virtually all producers and agents produce trade catalogues describing the goods they have for sale. These vary in form from simple leaflets to bound works packed with technical information. The trade associations and development associations, too, offer much that is useful in the information field, particularly buyers' guides.

Last yet not least significant of the general published sources of information come the bibliographies, which, so most of you will think, are the best-loved so far as the information officer is concerned. In their simplest form, i.e. containing solely details of author, title, publisher and date, or periodical reference, they are very useful provided that the aspect covered is not too wide, but nothing can be more disconcerting than a 'simple' bibliography of, say, some four hundred titles on wool spinning. The 'abstract' bibliography is far more useful in that the user can estimate for himself the contribution individual papers are likely to make towards the solution of the problem in hand. Bibliographies appear also as appendices to literature surveys of specific subjects which themselves play a valuable role. Bibliographical surveys are compiled regularly by many of the national information sources and, in any case, applications for a reading list will be met by virtually any other responsible source.

Foreign Sources of Information

We have considered so far only sources of information within the British Isles. Yet we must bear in mind that, however restricted our areas of operation may be, foreign influences are becoming more and more marked, and with that our requirements for information from foreign sources are extending.

The organization of information on a national basis in Western European countries follows much the same pattern as in the United Kingdom in that in each country it is centred upon an equivalent of the DSIR. It is impossible within the time available to describe the individual European sources in the same manner as we have treated the British ones. The European Productivity Agency has published an excellent *International Guide to European Sources of Technical Information* which gives details of both general and specialized sources of information.

The situation in the United States is more complex, due, I feel, in part to the American penchant for over-organization and in part to the nation having been bitten and bitten again by the information bug. The United States are certainly not lacking in institutions and societies, some of which have an absolute wealth of information on subjects only remotely related to their specific fields of activity. For my own part I rely very much on such organizations as the American Society for Testing Materials, the Society of Automotive Engineers, the American Society of Tool Engineers, the American Society of Lubrication Engineers, and the American Gear Manufacturers Association, but their interests are confined to mechanical engineering, of course. Moreover, the principal American periodicals conduct highly organized reader information services, which provide useful channels.

At the same time the United States Embassy in London operates a very efficient information service, which is prepared to supply answers to both commercial and technical inquiries, and this is supplemented by the American Library in Grosvenor Square. The stock of this library embraces the economic, commercial, and technical literature related to or emanating from the U.S.A., together with files of American periodicals. The library service was initiated as a means of furthering Anglo-American relations and is provided specifically for the use of the British public, i.e. its primary function is not to serve as the library for the Embassy staff.

Mention of the American Embassy leads me to remind you that with most commercial and many technical problems the diplomatic corps of foreign countries can be most helpful. Many of the countries who are represented at ambassadorial level in the United Kingdom include on their embassy staffs commercial and technical counsellors who are only too anxious to provide information. At consular level satisfactory answers are not always received immediately to questions of a specialized nature, particularly on technical subjects; nevertheless, failing a direct answer, the consulates will usually take the query to a potential scource of information or advise the inquirer on a similar course of action.

Aslib

Aslib is a contraction of the earlier title of 'Association of Special Libraries and Information Bureaux'. Aslib is a Government-sponsored organization, founded in 1924, whose purpose is to help industry to apply the results of research, whether scientific or economic, by arranging access to any information that it may require. Its membership in 1939 was only 334, but in the late 1940s this increased by some 250 per cent and today numbers 2,380. This rapid post-war rise was caused largely by the increase in documented information resulting from accelerated research during the war years. Aslib's membership now includes manufacturing and marketing companies, Government departments, research establishments, universities, technical institutions, learned societies, and public libraries.

The information service accepts inquiries on all subjects, whether commercial, scientific or technical, and the inquirer is either given the information direct or put in touch with the best sources. Aslib is expert in locating copies of journals, reports, pamphlets, and books; and its specialist library members cover almost the whole field of human knowledge, most of them being willing to lend material to other members. As Aslib is the recognized United Kingdom authority on all matters affecting the establishment and administration of special libraries and technical and other intelligence services, authoritative and up-to-date advice can be provided on any aspect of this work. A register is maintained of vacant posts in special libraries and information departments and of candidates seeking employment.

Eight subject groups have been formed to enable information staff working in the same field to exchange ideas and information and to carry out specific projects. The subjects are aeronautics, chemical industry, economics, engineering, electronics, fuel and power, furniture, and textiles.

Membership fees range from fifteen guineas per annum for commercial and industrial organizations and from six guineas per annum for non-profit-making organizations. Aslib publishes two monthly periodicals and one quarterly, which between them present texts of the more important papers presented at Aslib meetings, news of Aslib activities, details of scientific books in the English language recommended by subject specialists, and reviews of foreign literature on documentation. In addition to the periodicals, Aslib has issued a number of specialized publications, including handbooks devoted to the techniques used in information work and a directory to sources of information in Great Britain and Ireland.

INFORMATION SERVICES

I have attempted so far to review the principal sources of information in this country with some indication of foreign sources. The omissions are many, I know, and some have been made wittingly—for example, I have not dealt with the Central Office of Information nor with the Government Departmental libraries, other than those of the Board of Trade, the Patent Office and the DSIR. But then, this paper is not confined to a survey of sources of information. Nor, for that matter, have I dealt at all with the information departments of the larger industrial companies, some of which are amongst the most highly organized in the country.

The picture as it has been painted should suffice, however, to show you that a great deal of money and a great deal of time are being devoted in all branches of commerce, science and technology to the collection and publication of information. The large scale of such activity belies any suggestions that this is 'information for information's sake'.

Functions of the larger unit

That the larger industrial concerns have appreciated the information service as a working component of the production machine is evidenced by the excellent and extensive information units operated by these companies. In addition to library facilities the services provided usually include photocopying units, abstracting departments, translating sections, etc. In addition to supplying answers to questions received, these services provide a steady stream of information to all departments, as well as undertaking long-term investigations connected with the larger-scale projects of the research and development departments in which they are often incorporated. Statistics show that the expenditure of the various industries on research, including information services, ranges from 0.2 per cent to some 10 per cent of the annual productive output of the organization, the highest figures being for the aircraft industry and then the electrical industry, and the lowest for the wool worsted industry. A figure of 1–2 per cent is generally regarded as being about average.

INFORMATION AND THE SMALLER FIRM

Individually, the smaller firms have neither the finances nor the facilities for such research nor have they requirements for translating, abstracting and photocopying such as would justify the employment of full-time staffs on these tasks. It can even be claimed that they have no requirement for one person to be engaged full-time on information work in general; yet I feel that this claim is to be treated on the needs of individual firms rather than in general terms.

In the smallest firm if a wholehearted attempt were made to bring together all the information in published form which has been accumulated over the years by the managing director and by other members of the firm the results would be astonishing. And I am certain we should hear the comment, 'Well, I never knew we had that!'

After all, our views spur us to similar efforts at home. Periodically the plaintive appeal is heard from the distaff side for something to be done about the piles of books and papers we have accumulated and stored in odd corners and cupboards. Year by year we entreat for a period of grace, adding to our pleas a lengthy homily on the value of this irreplaceable literature to mankind in general and the family breadwinner in particular in the furtherance of the knowledge of his craft. Such entreaties are invariably in vain, and the threat of the dustman's impending arrival hastens our efforts to retrieve the most valuable treatises and trash. If we can accumulate on such a scale at home, then on what scale must the same conditions apply at the mill, in the factory or at the office?

Organization

No small firm can envisage providing itself with an information service that will provide mainly from its own resources all the facilities of a fully developed unit; and the doubt does arise whether requirements even exist that will entail the employment of any one person on a full-time basis. With this in mind, therefore, what steps are to be taken towards setting up a satisfactory scheme?

The first requirement obviously is the operator—and the decision on this point is the most important of all, for obviously the ability of the operator determines the success of the scheme. In describing the desirable qualities of our part-time information officer I must tread warily, or we may find ourselves involved in the perennial controversy amongst information workers as to who is the more efficient as information officer, the science graduate or the fully qualified librarian. As, however, we are not considering large industrial undertakings with their wide, highly specialized, scientific background and as we are not unduly concerned because our candidates are not Associates of the Library Association, perhaps we may avoid the issue.

To my mind the basic qualities required are a critical faculty, a sound memory, a facility for assimilating knowledge and a natural ability to make personal contacts. The interests of the small firm will be confined to a very limited field and therefore an appreciable knowledge of the industry and of the production technique must be added to these prerequisites.

At this point I must return to the question of full-time or part-time operation of the scheme. Whilst purely financial considerations clearly advocate operation on a part-time basis, I agree with Raine,[1] who states that when an information section is run as a part-time duty 'usually the part is what remains after performing other duties. Such a part usually dwindles, usually to zero.' Initial tasks in the setting-up of efficient machinery for the operation of the service should require the full-time services of at least one individual, and by the time the machinery is installed and management has accustomed itself to the innovation, demands should leave no time for other duties.

Even so, the principal object is to make one person responsible for all information; whether this responsibility is part-time or full-time is an important issue, yet, at the present time perhaps, it is secondary to economic factors in the minds of the executive.

Whether the appointment be full-time or part-time the information officer must be given a status in the firm that carries some degree of authority and respect. He will be in continual contact with his own executives and those of other organizations too. Again, his functions entail many important responsibilities and he is entitled to a status commensurate with them.

He will require a room, a desk and, if possible, the services of a typist. He will need also a set of bookshelves, a filing cabinet, a card index, and some box files. Moreover, let him have a telephone—this is an essential. It is surprising how many questions remain unasked and problems left unsolved simply because the physical effort required to reach the potential answer is considered to outweigh the value of the results anticipated. Similarly, he will have to contact outside sources, and the carrier pigeon service is subject to many hazards in this present day and age.

Operation

Having established your operator and your equipment, how is your information machine to work and what will it do?

I have referred earlier to published information available already within the firm. Here, then, is the nucleus of your stock. Let your information officer discuss with your departmental heads the sort of information they require and what they have available. Let him record details of published and unpublished information in their possession. There will be an immediate reaction to this, for some of these chiefs will presume that all the material they have acquired so meticulously over the long years is to be whisked away from their reach for ever. This has never been suggested, nor is it at all necessary. But a central record of what is available within the firm is very necessary, provided that the record bears an indication of the location. You will notice, incidentally, that I have spoken not of 'books' but of published and unpublished information.

Having assessed the initial resources, some provision must then be made for future needs. The initial peregrinations of the information officer will have brought to light, no doubt, a number of general reference works and perhaps an even greater number of textbooks; nevertheless, gaps will exist. Certain standard works of reference are essential, such as general and technical English dictionaries, some foreign dictionaries, *Whitaker's Almanack*, the *B.S.I. Yearbook*, *Bradshaw's Railway guide*, and an atlas. Other general reference material required depends largely upon the interests of the parent company. Certain bibliographical aids are essential too. We cannot spare the time to discuss selection of the initial book stock, however, and, in view of the overall introductory nature of this paper, such details would be perhaps a little premature.

The same remarks appertain largely to periodicals. As I suggested earlier, an initial intake of some half-dozen periodicals devoted to the specific industry and allied subjects will suffice, provided that at least one contains a fairly comprehensive abstract section, and these should be supplemented by a good commercial periodical, say the *Board of Trade Journal,* and another one or two devoted more specifically to the general subject of management.

These stages being completed, the foundations of the information service have been laid. The next item to consider is the regular service it is to provide. The answer to this is complicated to some extent by the specific activities and requirements of individual firms.

We have seen already that the section must be equipped to supply information in reply to specific questions put forward; in other words, it has to meet a demand. A far more important function, however, is to anticipate that demand so far as is possible and thereby to keep each department fully acquainted with latest developments in its own field, be it welfare, production techniques, materials, or what you will. Until that service is provided the information unit is not fulfilling its purpose. This entails detailed knowledge of the activities and interests of each executive, department, and section, and close contact with each is imperative. Using this means also, the service must ensure that the right information reaches the right people at the right time. Although data may be requested by one section, part or all may interest another and therefore should be made available to it. Much of the value of information, especially commercial and economic, can be lost through delay or incorrect distribution.

Even provided that the information is directed correctly it may not be in the form required. The responsibility of the information officer is not simply to provide a host of literature references on a given topic, accompanied perhaps by the actual papers themselves, all for the inquirer to pore over and sort out for himself. The usual reaction to such a service is to place it on one side for later reference, ultimately to return it to the information officer without perusal, or, more conveniently perhaps, to lose it. All information, except, of course, general reference material and simple factual statements, must be appraised against the context of the actual query so far as it is known to the information officer. In some cases this may even mean referring the question back to the inquirer for further details.

It would be as well to mention at this juncture that the small industrialist should not attach too much significance to the 'technical' aspect of the information service. The term conjures up thoughts of a constant stream of highly complicated inquiries in obscure scientific terminology. In actual fact the technical inquiries dealt with in most information sections of medium size constitute a much lower proportion of the total inquiries received than you might expect. For example, so far as our own library is concerned, the total inquiries received over the past year break down under the arbitrary classification we are using this afternoon into:

Technical	48.4 per cent
Commercial	24.3 ,, ,,
General reference	15.4 ,, ,,
Administrative	11.9 ,, ,,

A further indication of the wide subject range is given by analysis of the sources. Like most other large companies, the David Brown organization is separated into divisions according to products; not all the divisions have their own libraries. The library of the Industrial Gear Division is situated in the Research and Development Department of which it forms one section. Information services are primarily for the Industrial Gear Division but of course they are extended to the other divisions when required. Taking the same twelve-month period of inquiries received, the break-down according to source is:

Research & Development Department	16.2 per cent
Other departments of Industrial Gear Divisions	69.7 ,, ,,
Other Divisions	12.0 ,, ,,
Sources other than the David Brown Organization	2.1 ,, ,,

As the second category includes such departments as Personnel, Central Purchasing, and the various specialist production departments, and as the other divisions are concerned with products not directly related to gears, the widespread range of subject is obvious.

Training

It is obvious from my comments on operation that technique plays a considerable part in information work, just as it does in other walks of life. And technique means training. It is probable that most of you will seek your information officer within your own staffs, for several obvious reasons. It is equally improbable that any such likely candidates will have more than an inkling of the techniques required, so some form of training will be required. Excellent two- or three-day courses are organized by Aslib for this purpose at introductory, intermediate, and senior levels, and the standard of tuition is extremely high.

If you can spare your information officer-to-be for a few days' training in London, then the financial outlay and temporary loss of labour is more than recompensed by the return.

On the other hand, the staffing problems that some of us have to face render this proposition out of the question. And it is here that we might appeal to the Huddersfield College of Technology for assistance. They have already entered the field of information work with a course on technical report writing. Complementary to this some form of local introductory course on the collection, appraisal, reporting, and filing of information would be extremely advantageous.

Costs

Now I should be very foolish were I to expect to interest a conclave of business men in the West Riding of Yorkshire in the adoption of new ideas without being confronted with the question, 'How much is all this going to cost?'

And here I tread on somewhat soft ground. The work study experts have applied their theories and techniques to many aspects of industrial life, but I have yet to hear of them invading the technical information field and I look forward with great anticipation to the day when they do. However, there are several references in the literature to valiant attempts to reach some rational conclusions on costs, but no systematic costing process seems to have been evolved.

So far as equipment itself is concerned, the outlay should not be high. I doubt very much whether many of you will insist on a new desk, a new filing cabinet, and a new typewriter. An initial outlay of some £25 would probably cover the cost of initial book stock and a further £25 subscriptions to periodicals. These figures are probably maxima, however, for they take little account of the material already available within the firm. As I have said, I have been unable to trace really useful data on costs, but the basis of calculation recommended by Sir Alfred Fleming for the cost of operation of an information unit in a medium-sized firm, i.e. one with, say, 250–1,000 employees, is a proportion of £1 per annum for every employee, but I feel we should exclude from this the salary of the information officer.

Return

The costing figures I have given are somewhat nebulous; even so, they present a relatively simpler problem than that of assessing the return. Again, attempts have been made but the results are scarcely fruitful, even in cases of individual organizations. Practically the only tangible guide are statistics, but these are largely ineffectual because of the absence of the £ *s. d.* aspect. As Pears[2] stated, 'today, tomorrow, or next week, the accurate and prompt production of some vitally important piece of information or reference might save some section of the company hundreds or even thousands of pounds . . . while on the other months might well pass with apparently no spectacular return for the expenditure on maintenance of intelligence services'. Hanson[3] suggests 'measurement of the cost of finding information, securing a document, surveying literature, etc., in the absence of the information service whose value is being studied—i.e. finding out what would happen if the information service were not there'. This solution sounds to be unsatisfactory, for in all probability, if the information were not there, the firm would find some alternative though less satisfactory method not requiring the information specified. Even so, it is extremely difficult to evaluate a process which has an end-product whose value cannot be determined accurately and which introduces to an administrative or a production process a factor which cannot be measured in terms of money or time. It would appear that the only direct method of evaluation is through statistical records; even then some of the value will not be represented. Despite the impracticability of an evaluation in terms of £ *s. d.*, however, the beneficial effects of an information service on the well-being of the company as a whole should be evident if the service is properly organized and operated. Each aspect of the company's work should reflect its influence, with a resultant improvement in overall efficiency, turnover, and profits.

LOCAL CO-OPERATION AND THE PUBLIC LIBRARY

Throughout this paper I have refrained from mentioning the services provided for industry by the British public library system. Nevertheless, the role of the public library in industrial information work is an important one, as you will appreciate from the details given in the brochure published by the Huddersfield Public Libraries.

Although I have devoted much of your time to the national information sources I feel we should not disregard the local sources we have available and of which I fear industry is not making the best use. Being a local lad just newly returned to this area, I have not yet had the opportunity for assessing the sources and types of material available, but it would seem that we all have something to gain if we institute some form of co-operative scheme. Admittedly, mechanical engineering, textiles and chemicals have little in common at first sight, but mechanical engineers design and build the textile machinery and chemical industry provides the dyestuffs. Moreover, the techniques of information work and the basic types of information required vary very little from one industry to another. Again, as I stated at the outset, administrative problems concern us all.

I should like you seriously to consider, therefore, the practicability of introducing a scheme in Huddersfield whereby some central index of locally available information may be compiled and some form of interchange of published information operated. First to be considered, of course, would be back-runs of periodicals with an extension later to textbooks. Then again, ultimately some thought may be given to photocopying and perhaps translating facilities. In fact, the scheme might extend to co-operative purchase on a specialist subject basis, with a consequent saving in expenditure for all participants. The idea is not a new one; it was first instituted in Sheffield before the last war and that scheme has served as a model for others throughout the world. Similar schemes operate, for instance, in Leeds and Liverpool, and small schemes are being considered now in various parts of the country. Only very recently, as a result of requests from the Pressed Steel Co. and the ICI, Swansea Public Library agreed in principle to set up a scientific and technical library which will co-operate closely with industry.

Some of you may have some proposals to make concerning the operation of such a scheme all of which could lead ultimately to the full utilization of resources immediately available which would result in operating costs. I feel confident that the Huddersfield Public Libraries Committee would give any such scheme their full support, but at the same time surely it is incumbent upon local industry to indicate that the requirement for their support exists.

CONCLUSIONS

I must apologize if my treatment of this wide field has proved more exhausting than exhaustive. All that remains now is for me to suggest that you consider the following main points on which I have attempted to focus your attention:

1. the introduction into your firm of some form of organized information service;
2. a recommendation from this meeting to the Public Libraries Committee that extra provision be made for scientific and technical literature of particular interest to local industry;
3. a recommendation from this meeting to the Huddersfield College of Technology that an elementary course of instruction be instituted on industrial information work;
4. the active support of this meeting of the introduction of a co-operative scheme for local industrial information.

I leave these proposals with you for consideration and discussion, with a hope that some material suggestions and propositions will be forthcoming later.

REFERENCES

1. A. H. RAINE. 'Small scale industrial information services.' *Aslib Proc.,* vol. 3, 1951, pp. 31–5.
2. J. B. PEARS. 'Estimating the value of information services.' *Aslib Proc.,* vol. 3, 1951, pp. 76–84.
3. C. W. HANSON. 'Costing information services.' *Aslib Proc.,* vol. 3, 1951, pp. 85–90.

THE JAPAN INFORMATION CENTER OF SCIENCE AND TECHNOLOGY AND ITS ACTIVITIES

KOZI ABE

Japan Information Center of Science and Technology

Based on a talk given at Aslib on 3rd June 1959

THE Japan Information Center of Science and Technology (JICST) was established on 16th August 1957 by Act of special incorporation as an organization of non-profit character supported by government and industry. It was established for the purpose of contributing to the development of science and technology by means of collecting, processing, storing, and retrieving scientific information. Translation and photoduplication services were also to be included.

BUDGET: APRIL 1959 TO MARCH 1960

Income:	Government investment	£30,000
	Government subsidy	60,000
	Income from services	50,000
		£140,000
Expenditure:	Salaries	£50,000
	General office expenditure	25,000
	Collection and processing	40,000
	Service costs	25,000
		£140,000

The President of the Center is Dr Yasuziro Niwa; Vice-President, Mr Daisaku Miwa. The Auditor is Mr Kazutaka Matuda. The Director, Mr Susumu Yosioka, is aided by Councillors, Advisers, and Specialist Committees. The Center is organized into an Information Division, an Investigation Division, the Planning Office, Service Section, General Affairs Section, and Library. At present the Information Division is responsible for the processing and storage of information, while the Investigation Division is charged with fundamental research, question-and-answer service to domestic and foreign research workers, and translation.

The staff number about ninety and some two hundred scientists co-operate with the Center in making abstracts. Roughly the same number of scientists are registered as translators. The majority of the staff are university graduates in science and technology and are engaged in abstracting, indexing, and retrieval services. A Service Division will be established in the Center to expand the service activities.

ACTIVITIES OF THE CENTER

Collection

For this purpose the Center collects scientific and technological information from articles in some 2,500 foreign and 1,000 Japanese periodicals, research reports, university proceedings, patent specifications, and other publications, accessioned through the air cargo systems or other media from all over the world since 1958. At present information on natural science and engineering is collected but it is intended to extend the scope of the work to cover medicine, agriculture, and forestry in future.

Storage

The scientific information, technical news, industrial trends, or design data in all the documents accessioned by the Center are thoroughly analysed, classified, and briefly abstracted by well-qualified information staff, and are entered, classified, and stored in card form.

In present circumstances the titles of the principal articles in some 2,500 foreign periodicals are translated with short annotations or indicative abstracts in Japanese, and these are typed on to cards 4 in. × 6 in. size with bibliographic entries and the UDC numbers for each article. These cards are filed in classification number order. At the present stage, about 10,000 papers are processed per month.

Retrieval

A list of the newly processed items of information in science and technology is published in the *Current Bibliography on Science and Technology* in six series besides *Foreign Patent News*. Requests for bibliographical and research information in science and technology are answered from the stored information or from other sources. Translation and photoduplication services are also available for research workers.

The mechanical retrieval of information is envisaged in the near future. The principal machines to be used are the Modified IBM type 101 and the Filmsort Automatic Mounter. This system is the same in principle as that used in the United States Patent Office.

INTERNATIONAL CO-OPERATION

The Center maintains contacts with more than five hundred foreign institutions through translation and photoduplication services, and the business is steadily increasing. As the Center has no material published before 1958—it is, so to speak, just a newly born baby—it has to have overseas co-operation in order to get earlier information. Contracts for photoduplication have been made with some libraries in the U.S.A.

The Center has been an associate member of FID since 1957.

The Center is always ready and willing to co-operate with the libraries, universities, associations, and other institutions of any country that is eager to contribute to the development of science by means of the international exchange of knowledge. Exchanges of photocopies or references are heartily welcome.

PUBLICATIONS

JICST Monthly (Gekkan JICST), in Japanese. An informative journal covering documentation activities. Annual subscription: $5 including surface postage.

Current Bibliography on Science and Technology (Kagaku Gizyutu Bunken Sokuho) in original languages with Japanese translation. A classified list of the latest articles on science and technology in some 2,500 foreign periodicals; published in six series.

a. Engineering in general and mechanical engineering. Semi-monthly. Subscription $36 p.a. including surface postage.
b. Electrical engineering. Semi-monthly. Subscription $36 p.a. including surface postage.
c. Chemistry and chemical industry. Semi-monthly. Subscription $36 p.a. including surface postage.
d. Earth science, mining and metallurgy. Monthly. Subscription $18 p.a. including surface postage.
e. Civil engineering and architecture. Monthly. Subscription $18 p.a. including surface postage.
f. Pure and applied physics. Monthly. Subscription $18 p.a. including surface postage.

In addition there is a project to publish some abstracts of bibliographies of Japanese papers (which will be translated into English) in the near future. Some would be published in 1960.

Foreign Patent News. A classified index of newly granted chemical patents of the United States, the United Kingdom, and the German Federal Republics. Weekly. Subscription $36 p.a. including surface postage.

SERVICES AND CHARGES

Investigation (Bibliographical and reference investigation in science and technology excluding agriculture, forestry and medicine)	$2.50 per hour
Abstracts (English abstracts of 150–200 words from articles and patent specifications in Japanese)	$2.50 per abstract
Translation (from Japanese into English) ..	$0.80 per 100 Japanese letters (roughly $13–15 per original printed page)
Photoduplication	
Microfilm (35 mm. negative)	$0.05 per page of an article (minimum per article: $0.50)
Paper-print (21 cm. × 14.8 cm.)	$0.30 per sheet (minimum per article: $1.50)

Additional charge(s) would be separately charged.

Postage, freight, etc., are additionally charged.

Remittances are acceptable by bank draft or other media payable in yen and to be drawn upon a bank in Tokyo. A private cheque or a bank-note is not acceptable.

The above-mentioned rates came into effect on and after 30th May 1959.

The above is an outline of the organization and activities of the Center. It is clear, however, that much more experience of dealing with information services is required if the activities of the Center are to be more effective. The co-operation of similar organizations in other countries is therefore much appreciated. It is hoped that Aslib will give many useful suggestions and advice based on experience.

DISCUSSION

In answer to questions Mr Kozi Abe pointed out that he had quoted rates for translating from Japanese into English only, because he was speaking mainly of the services available to other countries. Translations from English to Japanese were, of course, undertaken but the charges were a little higher.

He reminded his audience that JICST had only started to operate two years ago and it was too early to judge the effect of its work on smaller information services in the country as the number of inquiries had not reached a high enough level yet and the Center had not yet undertaken wide public relations activities. It was not the intention of JICST to deprive other authorities, such as universities, of exchange publications in favour of the Center but to develop an exchange of information within Japan, and to acquire suitable additional publications from other countries through exchange with the Center.

The bibliographies published by JICST included short abstracts but they only covered foreign periodicals taken by the Center. The Center was considering the possibility of taking Japanese periodicals as well.

Mr Abe said that no arrangements had yet been made for an exchange of translations, but he would put this suggestion forward when he returned to Japan.

The Center would co-operate with any other organizations in Japan that were able to offer similar services. Unesco coupons could be used for transactions with JICST.

Most of the industrial inquiries so far had come from major industries, probably because JICST was not yet sufficiently well known to small industrialists.

With regard to abstract journals Mr Abe said that JICST would direct inquirers to the source from which these could be borrowed but the Center did not normally supply a loan service.

SELECTIONS FROM THE RECENT LITERATURE

Books and Pamphlets

*ABERDEEN. University. Library
List of periodicals. Aberdeen, the University Library, 1959. [3], 170 pp. 10*s*.

AMERICAN MANAGEMENT ASSOCIATION
Operations research reconsidered: some frontiers and boundaries of industrial OR. New York, the Association; London, Bailey Bros. & Swinfen, 1958. 143 pp. diagrs. $3.75; 30*s*.

*BELLOT, H. HALE, *compiler*
Union list of American historical periodicals in United Kingdom libraries. London, Univ. of London, Institute of Historical Research, 1959. viii, 41 pp.

BERNINGHAUSEN, DAVID K., *editor*
Undergraduate library education: standards, accreditation, articulation: proceedings of the Institute on Undergraduate Library Education, [Minneapolis], October 31–November 1 1958. Minneapolis, Univ. of Minnesota, 1959. [4], 136 pp. $2.

BOWERS, FREDSON
Textual and literary criticism: [the Sandars Lectures in Bibliography, 1957–58.] Cambridge, C.U.P., 1959. ix, 186 pp. 22*s*. 6*d*.

BRISTOL, ROGER P.
Card turner problems: a preliminary investigation of the feasibility of long-distance consultation of card catalogs. Charlottesville, University of Virginia, 1958. 12 pp.

CALIFORNIA. University. Library
Mean what you say: proceedings of a conference on written and oral library reporting at the University of California, Santa Barbara, July 20–23, 1958 . . . edited by Betty Rosenberg. Los Angeles, the Library, 1959. xi, 85 pp.
(UCLA Library Occasional Papers, No. 10.)

CARTER, MARY DUNCAN, *and* BONK, WALLACE JOHN
Building library collections. New York, Scarecrow Press; London, Bailey Bros. & Swinfen, 1959. vi, 7–259 pp. bibliog. $6; 64*s*.

CHONEZ, A.
Méthodes et machines de sélection documentaire. Parts 1 and 2. Paris, Association des Anciens Élèves de l'Institut National des Techniques de la Documentation, 1958. 37 pp.

CHORAFAS, DIMITRIS N.
Operations research for industrial management. New York, Reinhold; London, Chapman & Hall, 1958. x, 303 pp. diagrs. $8.75; 70*s*.

COLLISON, ROBERT L.
Indexes and indexing: guide to the indexing of books, and collections of books, periodicals, gramophone records, films and other material, with a reference section and suggestions for further reading. 2nd ed. revised and enlarged. London, E. Benn, 1959. 200 pp., illus. 21*s*.

DENSHAM, D. H.
The construction of research films. London, Pergamon P., for Advisory Group for Aeronautical Research and Development, N.A.T.O., 1959. vi, 104 pp., illus., diagrs. 30*s*.

DODGE, F. W., CORPORATION
Writing and publishing your technical book. New York, the Corporation, 1959. v, 50 pp. *gr*.

GUILBAUD, G. T.
What is cybernetics? Translated [from the French] by Valerie MacKay. London, Heinemann, 1959. viii, 126 pp., diagrs., bibliog. 10*s*. 6*d*.

HORECKY, PAUL L.
Libraries and bibliographic centers in the Soviet Union. Bloomington, Indiana University, 1959. xviii, 287 pp., diagrs., bibliog. $3. (Slavic and East European series vol. 16.)

*HULL. Public Libraries
Kingston-upon-Hull Scheme for Interloan of Technical Publications: a check list of current periodicals held by members. Hull, Central Library, 1959. [3], 95 pp.

*THE INTERNATIONAL who's who. 23rd ed., 1959. London, Europa Publications Ltd, 1959. xviii, 980 pp. 120*s*.

JAMES, PETER, *editor*
Literature on information retrieval and machine translation: bibliography and auto-index. 2nd ed. New York, Service Bureau Corporation, 1959. [i], 38 pp.

LEVESON, J. H., *editor*
Electronic business machines. London, Heywood, 1959. 272 pp., diagrs. 45*s*.

LIBRARY ASSOCIATION. London and Home Counties Branch
Working together: some aspects of library co-operation: papers read at the Weekend Conference . . . held at Clacton-on-Sea, 10th–12th April, 1959. Gillingham, the Branch, 1959. 75 pp. 8*s*. 6*d*.

LOIZEAUX, MARIE D.
Publicity primer: an abc of 'telling all' about the public library. 4th ed. New York, H. J. Wilson Co., 1959. 122 pp., bibliog. $1.50.

MURPHEY, ROBERT W.
How and where to look it up: a guide to standard sources of information. New York, London, McGraw-Hill, 1958. xiv, 721 pp. $15.

NOLTINGK, B. E.
The human element in research management. Amsterdam, Elsevier Publishing Co.; London, D. Van Nostrand, 1959. vii, 91 pp., diagrs., bibliog. 9*s*. 6*d*.

PARIS. Bibliothèque Nationale
La Bibliothèque Nationale pendant les années 1952 à 1955: rapport présenté à M. le Ministre de l'Education Nationale par M. Julien Cain . . . Paris, Bibliothèque Nationale, 1958. vi, 333 pp. *gr*.

PHILIPP, FRANZ-HEINRICH
Der Ausleihvorgang an den deutschen wissenschaftlichen Universàlbibliotheken: eine Untersuchung an Hand von Arbeitszeitstudien. Cologne, Greven Verlag, 1959. 123 pp., illus., bibliog. DM. 13,20.

PROVISIONAL INTERNATIONAL COMPUTER CENTRE, Rome
Multilingual terminology of information processing; [compiled by J. E. Holmstrom]. Rome, the Centre, 1959. ix, [388] pp. (German, English, Spanish, French, Russian.)

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANISATION
Basic facts and figures: international statistics relating to education, culture and mass communication, 1958. Paris, Unesco, 1959. 142 pp. 600*fr*.; 10*s*.

UNITED STATES. Department of Commerce. Bureau of Foreign Commerce
A guide to foreign business directories. Washington, U.S. Gov't. Printing Office; London, H.M.S.O., 1959. vii, 132 pp. 45*c*.; 4*s*.

WALDMAN, JOHN
Rapid reading made simple. New York, Garden City Books; London, Bailey Bros. & Swinfen, 1958. 192 pp. $1; 8*s*. 6*d*.

WRUBEL, MARSHAL H.
A primer of programming for digital computers. New York, London, McGraw-Hill, 1959. xv, 230 pp. $7.50; 58*s*.

Articles and Papers

ALLEN, G. G.
Loan records in small scientific libraries. *The Australian Library Journal,* vol. 8, no. 3, July 1959, pp. 138–40.

BAGNALL, A. G.
National bibliography, 1890– : a progress report. *New Zealand Libraries,* vol. 22, no. 5, July 1959, pp. 101–5.

BEHMENBURG, HANS
Verfahren und Anwendungsmöglichkeiten der Elektrophotographie in der Dokumentation und Information. *Nachrichten für Dokumentation,* vol. 10, no. 3, July 1959, pp. 65–70.

BELKNAP, RICHARD H.
Research libraries and scientific publishers. *College and Research Libraries,* vol. 20, no. 8, July 1959, pp. 353–4.

BIRDWELL, EFFIE N.
Managing a library with a library committee. *Special Libraries,* vol. 50, no. 6, July–August 1959, pp. 235–7.

BIRNBAUM, HENRY
The research library and the scholar. *College and Research Libraries,* vol. 20, no. 8, July 1959, pp. 355–64.

CRITTENDEN, VICTOR
Libraries and librarianship in Canada. *The Australian Library Journal,* vol. 8, no. 3, July 1959, pp. 115–7.

DARRIN, RUTH, *editor*
The library as a therapeutic experience. *Bulletin of the Medical Library Association,* vol. 47, no. 3, July 1959, pp. 305–11.

DOVE, JACK
The selection of music in public libraries. *The Library World,* vol. 61, no. 710–11, August–September 1959, pp. 37–9.

DOWNS, ROBERT B.
University libraries (no. 1 of series Library Public Relations). *Illinois Libraries,* vol. 47, September 1959, pp. 519–23.

FISHER, J. C.
Basic research in industry: a count of scientific publications suggests the extent of U.S. industry's effort in basic research. *Science,* vol. 129, no. 3364, 19 June 1959, pp. 1653–7.

HERNER, MARY
The current status of the government research report in the United States of America. *Unesco Bulletin for Libraries,* vol. 13, no. 8–9, August–September 1959, pp. 187–96.

KESLING, ROBERT V.
Crimes in scientific writing. *American Documentation,* vol. 10, no. 3, July 1959, pp. 173–5.

KREHL, HERBERT
Kopieren und Vervielfältigen im Bibliotheks- und Dokumentationsdienst. *Dokumentation Fachbibliothek Werksbücherei,* vol. 7, no. 5, July 1959, pp. 169–72.

LOHSE, GERHART
Gliederungsprinzipien systematischer Kataloge. *Zeitschrift für Bibliothekswesen und Bibliographie,* vol. 6, no. 2, 1959, pp. 97–104.

LYON, DOROTHY E.
The acquisition, treatment and use of newspaper clippings in Auckland Public Library. *New Zealand Libraries,* vol. 22, no. 5, July 1959, pp. 108–13.

MEARNS, DAVID C.
To be enduring: the National Union Catalog of Manuscript Collections. *College and*

Research Libraries, vol. 20, no. 5, July 1959, pp. 341–6.

Microreading at one's desk. (Ross Microreader.) *Office Magazine,* vol. 6, no. 69, September 1959, p. 762.

New agricultural periodicals (also changes of title, and cessations) from January 1955 onwards. *Quarterly Bulletin of the International Association of Agricultural Librarians and Documentalists,* vol. 4, no. 3, July 1959, pp. 184–92.

PORTER, A.
Some notes on the history of bookplates. *South African Libraries,* vol. 27, no. 1, July 1959, pp. 18–23.

RUGGLES, MELVILLE J.
Translations of Soviet publications. *College and Research Libraries,* vol. 20, no. 8, July 1959, pp. 347–52.

SCHORP, A.
Quelques critères de qualité dans les traductions techniques. *Babel,* vol. 5, no. 2, June 1959, pp. 110–18.

SPENCE, BARBARA A.
The librarian and the procurement problem. *Sci-tech News,* vol. 13, no. 3, Fall 1959, pp. 6–7.

STRIEDL, HANS
Die Xerox-Anlage (Hand equipment) Model D im Dienste der Bibliothek. *Dokumentation Fachbibliothek Werksbücheri,* vol. 7, no. 5, July 1959, pp. 145–54.

STROUT, RUTH FRENCH
Dewey Decimal Classification and relative index: sixteenth edition . . . [review]. *The Library Journal,* vol. 29, no. 3, July 1959, pp. 210–12.

Studi riguardanti il microfilm. *Bollettino d'Informazione sulla Microreproduzione,* vol. 6, no. 1, April 1959, pp. 24–32.

TOBER, EDWARD P.
Determining optimal back number inventories. *American Documentation,* vol. 10, no. 3, July 1959, pp. 224–7.

WELCH, HELEN M.
Proposed procedure for establishing a cost of periodicals index. *Library Resources and Technical Services,* vol. 3, no. 3, Summer 1959, pp. 202–8.

WHITE, HERBERT S.
Operation of libraries without library committees. *Special Libraries,* vol. 50, no. 6, July–August 1959, pp. 241–3.

WINCHELL, CONSTANCE M.
Selected reference books of 1958–1959. *College and Research Libraries,* vol. 20, no. 4, July 1959, pp. 289–99.

All the above items may be borrowed from Aslib Library, except those marked with an asterisk, Most of these are available for consultation in the Library, apart from a few for which locations in other libraries can be given.

MEMBERS' ADVERTISEMENTS

As from 1st January 1960, the charge for advertisements in these columns will be 4*d.* per word, minimum 5*s.* The present charges are 3*s.* for first 25 words, 2*d.* for each additional word. An additional charge of 6*d.* is made for the use of a box number.

TRANSLATIONS, TECHNICAL, SCIENTIFIC, all languages, by specialists with sound technical and scientific qualifications. J. Smuts, B.SC.(ENGIN.), F.I.L., 140 Wightman Road, London, N.8. Tel. STAmford Hill 8564.

Appointments vacant

D.S.I.R. requires two ASSISTANT EXPERIMENTAL OFFICERS at Lending Library Unit, initially at 20 Chester Terrace, Regent's Park, London, N.W.1 (and subsequently in Yorkshire), to assist in selecting and promoting use of scientific and technological literature. Qualifications G.C.E. (Advanced) in two sciences or a science and mathematics subject, but over 22 pass degree, H.N.C. in science subject, or equivalent generally expected. Special consideration given to candidates with knowledge of a foreign language other than French or German. Salary £397 10*s.* (age 18)–£570 (age 22)–£880 (men). Five-day week. Forms from M.L.N.S., Technical and Scientific Register (K), 26 King Street, London, S.W.1, quoting reference G.90/9A. Closing date 28th November 1959.

INFORMATION OFFICER. Applications invited from men or women: knowledge of organic chemistry advantageous: commencing salary £600 p.a.: pension scheme. Apply by confidential letter to The Staff Manager, The British Plastics Federation, 47–48 Piccadilly, London, W.1.

PRINCIPAL SCIENTIFIC OFFICER: DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH. Pensionable post at the National Lending Library for Science and Technology, London, for man or woman with 1st or 2nd class honours degree in a scientific subject or high professional attainment, to assist in expansion and development of the Library, which will move to Boston Spa, Yorkshire, in 1961. Experience of scientific library or technical information work and, preferably, some research experience is required. Men's salary scale: £1,460–£2,070 (National); £1,500–£2,120 (London). Starting pay may be above minimum. Promotion prospects. Write Civil Service Commission, 17 North Audley Street, London, W.1, for application form, quoting S5048/59. Closing date 25th November 1959.

RESEARCH INFORMATION. A SCIENCE GRADUATE is required by British Nylon Spinners Limited to be in charge of the Research Library and its information services. The man appointed will be directly responsible to the Company's Librarian and Information Officer, and will act as his deputy in his absence. Candidates should preferably have had experience in a special library. This post will carry an attractive starting salary and good prospects, and conditions of service are equal to the best available in industry today; rented houses can be obtained locally by married men, and the Company helps over removal expenses. Please write with full details of experience and qualifications to the Personnel Manager at Pontypool, Monmouthshire.

3M COMPANY require a LIBRARIAN to take charge of a small technical library and assist the Development Manager. The successful applicant aged 25 to 35 will be a woman with a sound technical background, preferably in chemistry, and also have secretarial ability. Qualified applicants are invited to write or telephone the Development Manager, Minnesota Mining & Manufacturing Company Ltd, 3M House, Wigmore Street, London, W.1. Hunter 5522, extension 337.

The British National Bibliography

A complete guide to British books published since
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★ Annual Catalogues of current publications

★ Quarterly Cumulations

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The British Museum, London, W.C.1

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ASLIB PROCEEDINGS

incorporating Aslib Information

Volume 11 December 1959 Number 12

ASLIB CALENDAR

1960

JANUARY

TUESDAY 5th. Winter meeting. 'Experiments with Chinese', by R. Sewell.

FRIDAY 15th. Conference on co-operative translation schemes. See paragraph below.

TUESDAY 19th. Midlands Branch meeting. 'The City of Birmingham Information Department', by A. Hughes.

FRIDAY 29th. Engineering Group meeting. 'Subject knowledge versus linguistic knowledge', by A. G. Readett.

WEDNESDAY 27th – FRIDAY 29th. Junior introductory course to information work. See paragraph below.

FEBRUARY

TUESDAY 2nd. Winter meeting.

WEDNESDAY 10th. Course on patents.

APRIL

FRIDAY 8th – SUNDAY 10th. Aeronautical Group conference at Cranfield.

MAY

FRIDAY 6th – SUNDAY 8th. Electronics Group conference.

Christmas

Aslib wishes all members a happy Christmas and prosperous New Year.

Conference on Co-operative Translation Schemes

A one-day conference on co-operative action in the field of technical translation will be held on Friday 15th January 1960 at the Connaught Rooms, London, W.C.2. The purpose is to discuss the benefits to be derived from co-operative schemes and to suggest means of improving and developing them. This conference is intended as a sequel to that on the techniques of translation held in 1958. Techniques will not be further discussed.

The Chairman at the morning session, Mr L. V. Chilton, British Aluminium Co. Ltd, will outline the present position. He will show how the demand for translation must grow with the growing awareness in industry of scientific developments in other countries, leading to a spate of foreign-language publications.

Papers will include co-operation in translation work by L. G. Patrick, Aluminium Laboratories; cover-to-cover English texts of foreign periodicals by E. G. Hill, DSIR; the Iron and Steel Consortium by Martin Wright, Iron and Steel Institute; benefits of co-operation by A. G. Readett, National Coal Board; some impediments to development of co-operation by J. B. Reed, DSIR; and what can be learned from abroad by F. Liebesny, British Aluminum Co. Ltd.

Mr Donald Hicks, National Coal Board, will take the chair at the afternoon session and sum up the recommendations of the conference. Programmes are available on application to Aslib.

Winter Meeting

The second of the series of winter meetings for 1959–60 will be held at 6 p.m. on Tuesday 5th January at 3 Belgrave Square, London, S.W.1. Tea will be served at 5.30 p.m. The subject will be 'An experiment with Chinese', and the speaker, Mr R. Sewell, Information Officer, Research and Development Department, The United Steel Companies Ltd, will discuss problems to be faced in dealing with scientific and technical literature in the Chinese language, emphasizing the necessity of immediate action to combat them. He will deal also with the nature of the Chinese language and methods of acquiring a reading knowledge of it, illustrating his talk with examples from personal experience.

Introductory Courses to Information Work

A junior course for those who have recently entered, or intend to enter, library and information work will be held at Aslib from Wednesday 27th to Friday 29th January 1960. The course is intended to give students not only a knowledge of clerical techniques, use of catalogues, and simple reference work, but an insight into the reasons underlying choice of method. The lecturers will be Mr R. N. Lock, FLA, Senior Lecturer in Charge, School of Librarianship, Birmingham College of Commerce, and Mr L. H. Miller, Assistant Information Officer, British Iron and Steel Research Association, Sheffield. Lectures will cover professional reading and development, types of library material, library operation and techniques, periodicals, relationship with users and with other libraries and sources of information, and handling inquiries. The programme will include visits to the library of the Science Museum, or the Patent Office, to a technical information department, and to Aslib library and information department. The fee for the course will be 3 guineas.

A senior introductory course for graduates is planned for late February.

Northern Branch

A meeting of the Northern Branch was held on 10th November in the Civic Hall, Leeds. Mr A. H. Raine, Information Officer, Associated Chemicals Ltd, presided. Commander H. Lemon, RN retd, Editor, Wool Industries Research Association, gave a paper on editing and publishing for a research organization. Mr R. Sewell, Information Officer, United Steel Companies Ltd, spoke on 'Experiments in Chinese'. Members were able also to visit Temple Newsam House, a tudor mansion, the birthplace of the first Lord Darnley, now preserved by Leeds Corporation as a country-house museum.

Scottish Branch

Some fifteen members of the Branch were guests of Burroughs Adding Machine Ltd, Cumbernauld, Dunbartonshire, on 28th October. The party were welcomed by Mr J. A. R. Barnes, Branch Manager, who gave the visitors a brief account of the background history relative to this recent extension of the company. An interesting tour of all sections of the factory was made under the guidance of Mr Allan Hurst, Factory Manager. Members were impressed by the production techniques evolved since the opening of the factory last year and gained considerable knowledge of the scope of this mechanical aid in its application to industry.

Textile Group

Mr T. R. Roxby has resigned from his position as Secretary of the Group as he is leaving library work to take up new duties. The new Secretary is Mrs M. I. Lomax, and correspondence should in future be addressed to her c/o Research Department, Tootal Broadhurst Lee Co. Ltd, 56 Oxford Street, Manchester.

Index to Theses

The seventh volume of *Index to theses accepted for higher degrees in the universities of Great Britain and Ireland*, covering the academic year 1956–7, is now available. Production of this volume was considerably delayed as a result of the recent dispute in the printing industry. It contains 2853 title entries, classified under subject headings, and author and subject indexes. Members and others who have standing orders for *Index to Theses* should have received their copies; others may obtain them from Aslib, price 21*s*. each to members, 25*s*. to non-members. Copies of volumes 2 to 6 also are available at the same price.

Bibliography of Social Work and Administration

Publication is announced of the sixth supplement to the *Bibliography of social work and administration* covering the year 1958. The bibliography is a classified list of articles from selected British periodicals, covering population, eugenics, labour, social work, social services, criminology and penology, social psychology, and leisure. Copies of the supplement are available, price 5*s*., from the publishers, the Joint University Council for Social and Public Administration, 218 Sussex Gardens, London, W.2.

Bibliography on Combustion-driven Oscillations

Battelle Memorial Institute has recently compiled a bibliography of some 550 references to literature on pulsations and noise associated with combustion which may be of value to designers and builders of combustion equipment for residential, industrial, and military use. It covers literature published from 1940 to the summer of 1959. Copies of the new bibliography may be obtained, free of charge, from the Publications Office, Battelle Memorial Institute, Columbus 1, Ohio, USA.

Fulbright Travel Grants

The United States Educational Commission in the United Kingdom offers, under the provision of the Fulbright programme, travel grants for students, lecturers, and senior research workers in the United Kingdom to go to the United States for academic or educational purposes.

Students must hold at least a good second-class degree or its equivalent. Grants for students are available for the academic year commencing September 1960 and are valid for a period of up to three years but must be renewed annually.

In awarding grants to research workers and lecturers, preference will be given to those who intend to spend a full academic year in the United States. Grants may be extended up to two years subject to satisfactory appointments.

All applicants must hold a guarantee of adequate financial support in dollars for the period of their visit. The closing dates for applications are 14th March 1960 for those intending to travel between 1st June and 15th August, and 1st June 1960 for those intending to travel between 16th August 1960 and 1st April 1961. Candidates are asked first to fill in a record card and application forms are sent only when individual plans are completed. Application should be made to the United States Educational Commission in the United Kingdom, 71 South Audley Street, London, W.1.

Mr Donker Duyvis

The retirement has been announced of Mr Donker Duyvis, for many years honorary secretary to the Fédération Internationale de Documentation (FID). It is intended to make a presentation to Mr Duyvis in recognition of his work for FID and it is felt that those who have come to know him during his term of office and have benefited from his services would like to be included in this token of appreciation. Those who wish to do so are asked to send donations as early as possible before 15th February 1960. Subscriptions may be transferred to the accounts of the Fédération Internationale de Documentation, The Hague, at the Rotterdamsche Bank N.V., Kantoor Benoordenhout, The Hague, Netherlands, or by post office money order to the Fédération Internationale de Documentation, 6 Willem Witsneplein, The Hague, with the annotation 'Personal fund Donker Duyvis'.

TECHNICAL INFORMATION IN INDUSTRY: HOW IT IS HANDLED

I. M. SLADE

British Iron and Steel Research Association

34th Annual Conference, Scarborough, 5th October 1959

HOW is technical information handled in industry? Very badly on the whole. Why is this so? Why doesn't industry get a better service? One of the reasons is that most companies have not woken up to the fact that they need help in handling technical information. There is not much use in saying a great deal about such companies, as they are not represented here and waking them up is a long business of education and publicity. All your organizations have wakened up to the extent of appointing you, and show their enlightenment by sending you to an Aslib conference.

I shall therefore confine myself to those companies that have established some sort of library or information section. How are these companies served? Again I have to say 'badly on the whole, with some notable exceptions'. If, therefore, in what I shall say, you know that you do all and more than I suggest, you are one of the exceptions.

There are two main reasons why companies do not get as good a service as they could. Put bluntly, people working in company libraries or information departments do not know what information their managements want, and do not meet the managements' needs when they are asked for information. You may think this is not true—you get no complaints, therefore you are doing all that is required, but don't deceive yourselves; it would be much better if you did receive complaints, because that would mean that the management expected more of you. It doesn't expect nearly enough. When managers are asked why they didn't pass a technical query to their librarian, they just smile and say, 'Oh no, he (or she) wouldn't understand what was needed', or, 'I don't think he would be able to deal with that sort of thing'.

Why is this? I believe it is because information work has not outgrown an outmoded tradition of giving a passive rather than an active service and has not adjusted itself to the increasing speed of technological advance, so that much of the information provided is incomplete or out of date.

How many of you wait to be asked for something rather than draw your customers' (or potential customers') attention to what is likely to interest them? And, when you are asked for information, how many of you refer your inquirer to a paper written some months or some years ago rather than give him the names of the available specialists on the subject who know the latest developments?

Of course, if you are to anticipate your customers' needs, you must know what their current interests are, and if you are to put them in contact with specialists you must know who they are.

I have written a paper addressed to management in which I have said it is all their fault that they do not get as good information services as they could; but, between ourselves, it is not all their fault, it is at least as much our own fault. As information officers, or librarians, you know what you must know in order to keep your clients informed about matters of interest to them. Many of you are not given this essential knowledge. You are not closely enough associated with your company's policy and plant to know what is being considered—that came out clearly from our survey*—but how many of you have asked your management for it? Few of you are sent to technical meetings where you would get to know who are the acknowledged experts on subjects of interest to your organization, but how many of you have asked to go? Precious few is my guess.

It is really no use complaining among ourselves about not being 'in the picture', about not being told about the company's policy, development plans, etc., if we have never asked to be told.

It is, of course, no use going to your managing director and saying 'please tell me'. Asking in a helpless sort of way is no use at all. Nothing is more annoying or more likely to get a short answer than a bleat that 'nobody tells me anything' —that is the theme song of the ineffective person. If you are going to ask your boss to be kept informed about what is going on in your organization you must have already made yourself as well informed as you can without his help, and you must have thought out two things beforehand—first, what use it will be to him if he does what you want, and secondly, how it can be organized without giving him any trouble. Before you can do this you have to know quite a lot about the working of your organization. Ask yourself all the questions you can think of about it. What is its purpose? What does it do? If it is a manufacturing company, what does it make? What raw materials does it use and where do they come from? What processes does it carry on? To whom are your products sold and for what purposes? What new processes and plant have been or are being installed?

What departments are there and how are they related to the processes and products? Who are the senior managers of these departments? To what societies and other technical organizations do they belong? Do they use your services? If not, why not? It may be because you have nothing of interest to them or it may be that you have much of interest but have not brought it to their notice.

Find out who is responsible to whom and for what. Is there an organization chart showing the set-up? If not, try making one. It will probably cause a riot if anyone sees it, but never mind that, you will learn a lot from trying to do it.

Look at your own collection of material in relation to the answers to these questions and you may find some surprising gaps—we did when we went round asking questions. For example, have you copies of all your own organization's publications—reports from the Research Department, catalogues, advertisements, and material for indirect publicity, etc. If not, then find out who distributes them and make sure you are included on the list for all future publications; and when you get them—read them.

I could go on, because there are so many things one can learn about any organization, but I am sure I have said enough to indicate the sort of activity I think an information officer should engage in. The answers to most of the questions I have suggested can be had for the asking. When you have digested the answers you will find that you can easily make arrangements to be kept informed about a great many things simply by asking for copies of this and that, and by looking periodically at certain files which no one previously thought of sending to you. You will then be able to help people more. When you know enough to mark things to people with a note saying 'are you interested in so and so?' 'Would you like me to keep a look-out for such and such?' you will, if you have chosen your items wisely, have begun to make an impression on your customers. They will be extremely surprised and gratified at evidence of the slightest intelligence on your part. When you have been doing this for a time you will become conscious of the gaps—of things that have been planned and discussed which you only hear of afterwards. This is when you can go to someone in authority and say, 'If I had known about so and so, I would have passed you this—I am afraid it is a bit late now—but if perhaps I looked at the minutes of such and such a committee, or saw such and such progress reports, I could look out for such things in future'.

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* M. L. PEARL *and* I. M. SLADE, *The flow of technical information in the iron and steel industry,* BISRA Report no. Inf/s/58. (Report of a survey carried out in 1953 by the British Iron and Steel Research Association on behalf of the Mutual Security Agency of OEEC.)

I am speaking not only to those of you who are in charge of information departments of any size but to any one of you who is in charge of any sort of library, collection of journals, textbooks, etc. You may only have been asked to circulate and file the journals, or to lend the textbooks and get them back afterwards. You have the nucleus—the germ of a proper information department—and it is up to you to develop it.

No one can go all the way at once. Start with your immediate boss, or with the person who makes most use of your present services. What is his job? What sort of information does he use? What does he read? Have you considered why he is interested to read certain journals (or, of course, why he doesn't)? But he is sure to read something and, if you tried, you could probably draw his attention to similar things which he might otherwise have missed.

So much for being aware of what is going on. It is true, as I have said elsewhere, that you must have the support of senior management if you are to give a full service, but you will not get that support unless you deserve it and show that you are prepared to help yourselves to be more useful.

Now for the second thing—being up to date. If you have read my paper* you will know that I believe one of the most important sources of information is not what is in any library but what is in people's heads. When a technical problem arises most people do not look for the answer from books or reports or even from technical journals, which are undoubtedly the most used written source (and most certainly they do not study abstracts, which comparatively few people use), but they seek the answer from another person.

Nearly everyone, when we asked what he did when he needed the solution to a technical problem, said that if he did not know what to do he would ask someone else.

However, the person he asks is very seldom his librarian or information officer—he goes, or tries to go, straight to the expert who, he hopes, will tell him the answer. Now we, as information officers, are seldom experts. No one, indeed, could be an expert on all the subjects that even a small library has to deal with. We are, or should be, experts at finding information and finding it in the form that our inquirers want.

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* I. M. SLADE, *The Information Department*, BISRA Report no. Inf. 1/59.

Everyone complains about the enormous amount of technological literature and we put a tremendous amount of time and effort into classifying, indexing, and abstracting it. When we are asked we can produce masses of information on almost any subject, and this is of great use to the expert. But when we are asked for the answer to an individual question by a manager in industry, this volume of information defeats its own ends. The busy man who wants to know how to deal with a practical problem does not want to be given a long list of references or abstracts or photocopies of what has been written on the subject and around it. He wants to know how to apply existing knowledge to his problem. The answer will probably be in the papers listed in your bibliography, but the items relevant to his problem have to be sorted out from the mass of literature.

There is a growing number of information scientists who do this sorting out, but even they have only a limited range of subjects on which they can advise. Once outside their own speciality they are in the same position as all of us. We have to consult other specialists.

Librarians are often behind the times in not making enough use of specialists, and librarians' services are therefore being short circuited—people are going direct to the experts and leaving out the information department. They are quite right to do so if they can get the sort of answer they want more quickly that way, and very often they can get it by talking to someone who has already done the sorting out in his own mind and can pick out just those items relevant to the particular query. Discussion soon shows just what information is needed and how detailed the answer must be.

What, then, should we do? Certainly we should not resign ourselves to being left out and, equally, we should not go on offering references to the literature, and compiling bibliographies, unless these are really wanted. We should turn some of the energy that we spend on abstracting and searching the literature towards helping our customers in the way they want to be helped. We must learn who are the specialists so that when a problem arises we can say 'so and so is the recognized expert on this subject'.

I am not suggesting that our indexes and bibliographies are useless—far from it—I am saying that by themselves they are inadequate. They are an excellent starting point rather than an end. Why not look at your author indexes from this point of view? Do you know how many people named in them are dead? How many are very much alive and where can they be found? Which of them can be consulted? Will they answer free or charge a fee? Which of them are really respected as experts in their subjects and which are journalists writing up someone else's work? If you do not know, what about going to a few meetings to find out. For example, the annual meeting of the British Association is a good start, because it covers all sciences and the specialists go to talk and to talk simply. It is a lighthearted sort of meeting where one can ask any silly question and not be thought silly. I am sure information officers should concentrate a great deal more on knowing people and less on 'literature'. To some extent, of course, I am 'preaching to the converted', since all of you have come to the Aslib Annual Conference where you meet people.

It seems that things have come full circle—originally scientists all knew each other and read their papers to each other. Then with the spread of knowledge they began to read other people's papers to themselves and so kept up to date. Now the amount of reading matter is too great on any but a narrow range of subjects and it is the age of the specialist—those who want technical knowledge on a broad front despair of keeping up to date by reading, and are going back to personal contact.

It is up to us to adapt ourselves to the new trend.

TECHNICAL INFORMATION IN INDUSTRY: HOW IT IS USED

CHRISTOPHER SCOTT
Social Survey, Central Office of Information

34th Annual Conference, Scarborough, 5th October 1959

THIS paper reports a selection of results from a sample survey on the use of technical information in the British electrical and electronics industry, commissioned by the DSIR and carried out by the Government Social Survey in 1956. For further details the report of the survey should be consulted.*

You have heard, in the last paper, a report on a survey of firms; the present inquiry was a survey of individuals. A sample of 1,082 people in certain categories of employment was interviewed and questions were asked about the use made of technical information by each individual. Broadly speaking, the BISRA survey† tells us how information enters the firm and how it is handled within the firm, while the present survey tells us how it is used once it comes into the hands of the individual scientist, technologist, or technician. Although the industries concerned are different, the two approaches are obviously complementary.

The present interview sample covered all persons engaged in research, whether qualified or not, all those with technical qualifications, and all those responsible for planning and development work. I shall refer to these briefly as 'technologists', although the sample includes scientists, management staff, and supervisory staff down to foreman level. The common quality is that all were engaged in duties to which the possession of technical information would be relevant. The sample was limited to medium-sized establishments, that is, those employing between 200 and 1,000 people in all. You will note that the BISRA sample covers much larger establishments and many of these were chosen because they possessed special information facilities. For this reason, comparison between the results of the two inquiries is not really possible.

There is time to give only a small selection of the findings.

THE ROLE OF TECHNICAL LITERATURE

The technologists in our sample were asked to name all journals which they saw regularly. The median number named was four per person. They were then shown a prompt list of ninety-eight of the most widely read journals in the field of electricity, electronics, and general engineering and asked to mark those in which they had read or scanned at least one article during the last year. The median number marked was six. Similar figures have been obtained in America, and they suggest at first sight that the reading of technical literature is not one of those activities which dominates the life of the average technologist. To obtain a clearer picture of the role of the literature, however, it was necessary to probe more deeply into the manner in which technologists solve their problems.

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* The survey was designed and supervised by Leslie T. Wilkins, and analysed and reported by the author of this paper, who is solely responsible for the opinions expressed herein. The report, entitled *The use of technical literature by industrial technologists,* can be obtained from the Librarian of the Social Survey (price 22*s.* 6*d.*).

† See footnote to p. 314.

Early in the interview each technologist was asked:

'Are you working on any problem at the moment?'

As many as 35 per cent answered 'No' (and incidentally it was found that these tended to be the people who were less active in their use of all kinds of information facilities). Those who answered 'Yes' were asked to explain the problem and then to describe, from the beginning, the steps they had taken to deal with it. Table 1 shows the answers.

TABLE 1

Steps taken to deal with current problem

Types of step	*1st step* *No.*	%	*2nd step* *No.*	%	*3rd step* *No.*	%	*Yesterday's or today's step* *No.*	%
Practical action	370	54	428	66	389	74	318	71
Personal contact	183	26	127	20	84	16	96	21
Reference to literature	80	12	31	5	14	3	10	2
Thought about it	37	5	20	3	6	1	12	3
Others	20	3	39	6	34	6	13	3
	690	100	645	100	527	100	449	100
No step	2		33		127		244	
No answer	11		25		49		33	
No problem	379		379		379		379	
TOTAL SAMPLE	1,082		1,082		1,082		1,105	

Note In the last column, more than one step could be described by the same person. This column presumably constitutes a representative sample of 'steps'.

You can see from the table that reference to the literature, when it occurs, is usually the *first* step. Even as a first step, however, it occurs in only 12 per cent of cases, while in a representative sample of steps it is extremely rare. Once again the results suggest that the literature does not play a very important role in the working life of the technologist.

One further piece of evidence pointing the same way is shown in Table 2.

TABLE 2

'If you want information on a technical problem which you cannot solve from your memory or your standard references what do you usually do *first*?'

Source from which information would be sought	*No. of responses*	*Percentage*
Literature or library	240	22
Someone within the establishment	499	46
The parent firm	72	7
Supplier or customer	50	5
A Government research station	11	1
Other research station	46	4
Person unspecified	155	14
Can't say	9	1
	1,082	100

Note The category 'person unspecified' covers such answers as 'someone who would know'.

Although the wording of the question ('. . . your standard references . . .') may well have encouraged a response in terms of a written source, only a modest percentage in fact cited the literature or a library. Let us now look at the question of libraries in more detail.

USE OF LIBRARIES AND INFORMATION DEPARTMENTS

TABLE 3

'What libraries do you personally use, including libraries of professional and learned societies?'

Library	*Responses*	*Percentage*
Public	660	48
Firm's library	344	25
Institutes and associations	163	12
Private library	56	4
Patent Office, Science Museum, or Science Library	58	4
Other Government Departments	74	5
Others	31	2
Total positive responses:	1,386	100
None	192	

Notes The 1,386 positive responses were given by 890 persons. Average: 1.6 libraries mentioned per person. The 192 individuals who used no library represent 18 per cent of the sample.

TABLE 4

'Can you always get from libraries the literature you want?'

	Number	*Percentage*
Yes	707	77
No	112	12
Qualified answer	103	11
	922	100

Note The question was not asked of those who claimed that neither they nor their firm used any library.

The rather high degree of satisfaction revealed in Table 4 may seem surprising when you consider how many firms have no library (see the BISRA and other surveys) and how few people use the firm's library when there is one (see Table 3). A plausible explanation would be that the apparent high satisfaction of Table 4 is in reality low dissatisfaction, stemming from a lack of interest in library facilities. Other findings point the same way.

TABLE 5

'Do you have any difficulty in getting any source of information?'

Difficulty	*Number*	*Percentage*
None	768	71
No literature on subject	71	7
Cannot trace information	103	10
Delay in getting information	70	6
Others	70	6
	1,082	100

Table 5 suggests that some 20 per cent of technologists are dissatisfied with the information facilities available to them. This rather low figure might mean that the facilities are good, or that demands on them are so slight that even poor facilities cause little dissatisfaction. Few people with a knowledge of British industry would accept the first alternative, nor does this survey support it (Table 6, for example).

TABLE 6

'Is anyone responsible for drawing your attention to articles or other publications which they consider you ought to see?'

	Number	*Percentage*
Qualified I.O. within establishment	88	8
Qualified I.O. outside establishment	39	4
Unqualified person	381	35
Don't know	11	1
No one	563	52
	1,082	100

All our evidence so far seems to suggest that technical literature and libraries are not very important to the working technologist. The naïve librarian (if there is such a creature) might be discouraged by this. But it is not my intention in this paper to discourage anyone, so before we draw any final conclusion let us look at some evidence which, at first sight, seems to point in exactly the opposite direction.

WHY TECHNICAL LITERATURE IS READ

TABLE 7

'Can you say by what means you get most of your ideas or stimulation for new ideas on improvements or new methods?'

Source	*No. of responses*	*Percentage of responses*	*Percentage of persons*
Written material of any kind	625	33	60
Intuition, thought—no external source admitted to	436	23	40
Personal contacts (informal)	372	19	34
Observation or experiment	252	13	24
Lectures, meetings—formal contacts	102	5	9
Trade exhibitions	46	2	4
Requirements of job or of customer	28	1	2
Unclassifiable	48	3	4
Can't say	24	1	2
	1,933	100	179

Notes Many respondents gave more than one answer.
'Observation' includes observation of other firms' products, processes, etc.

TABLE 8

'Where do you do most of your technical reading?'

Place	*Number*	*Percentage*
At home	643	59
At place of work	288	27
At home *or* at place of work	67	6
In a library	31	3
In trains	23	2
Others	6	1
No technical reading	24	2
	1,082	100

In Table 7 you will see that written material is mentioned more often than any other category as a source of ideas and stimulation. Table 8 shows that the majority of our sample claimed to do most of their technical reading at home, and this hardly seems what one would expect if they had no interest in technical literature.

These findings do not, of course, contradict the results already reported. They do suggest, however, that a sharp distinction must be drawn between the use of technical literature for reference purposes (or for solving particular problems) and its use as a source of general stimulation. It looks as if very little technical reading consists of a search for a particular piece of information; much more often the technologist is reading for general interest, picking up ideas from time to time but not deliberately seeking them. Several other lines of evidence from the survey point the same way. For example, the technologists were asked:

> 'Can you recall the most recent article in any paper, journal, pamphlet, etc., that was of direct use or special interest to you?'

As many as 29 per cent could not, but the remainder were asked:

> 'How was your attention drawn to this article?'

Table 9 shows the replies.

TABLE 9

How attention drawn	*Number*	*Percentage*
Colleagues within the firm	149	19
Persons outside	65	8
Persons unspecified	26	3
Reference in journal or book	37	5
Abstracts	28	4
Mass media	5	2
Attention was *not* drawn:		
Searched in literature	139	18
Came across it by chance	324	41
	773	100

Note A response was classified in one of the first three categories only if the *article itself* had been recommended.

There are several interesting things in Table 9, but for the present I only want to draw your attention to the last two lines. Here we see that less than a fifth of the articles were found by a deliberate search of the literature, while more than twice as many were met with accidentally in the course of routine reading.

CONCLUSIONS

If we now draw together the various threads, the picture which our survey presents is roughly as follows.

1. Although the technologist is no doubt aware, in an academic way, of the problem of disseminating the increasing output of technical information, he himself seldom comes up against this as a practical problem in his work. On the whole, he is reasonably satisfied with things as they are.

2. This is not because he has a well organized reference service at his elbow, but rather because he very seldom has need of such a service.

3. That he seldom uses the literature for reference does not mean that the literature has no value to him, or that he is not interested in it. On the contrary, he reads it mainly for interest, and in the course of this reading he often comes across items of information which are useful to him in his work. In fact, for the typical technologist reading is the main source of his ideas.

4. In 30 per cent of cases useful information obtained from the literature was found as a result of a personal recommendation from someone else (Table 9). Moreover, if a technologist wants to solve a problem he is much more likely to ask someone else than to search the literature. Thus, personal contacts play an important role in the dissemination of technical information, certainly more important than indexes, bibliographies, and abstracts.

For the librarian or information officer the implications of all this seem to be those that Miss Slade has already expounded.

Firstly, since the technologist (and that includes management) is not generally aware of any acute problem in getting technical information, the information officer cannot expect much help from his customers. His role must be active, not passive.

Secondly, he should remember that the main use of technical literature is not a reference use (not a search for a particular piece of information), so that the preparation of catalogues, bibliographies, and abstracts, though obviously important, is quite insufficient to ensure that information gets where it is needed.

Thirdly, since information is conveyed to the technologist mainly by his routine reading, the information officer should do what he can to encourage the regular reading of relevant journals, besides, of course, actively drawing the technologist's attention to items which seem of particular relevance.

Finally he should take into account the importance of personal contacts in the communication of technical information. It is important for the information officer to know the literature, but it is at least as important for him to know the right people.

DISCUSSION

The Chairman for the session on technical information in industry was MR F. B. ROBERTS (*Engineering*). Miss I. M. Slade spoke on the subject of the handling of technical information and Mr Christopher Scott followed with a paper on the use of the information by the individual.

In answer to questions after the papers the speakers said that evidence showed that technologists in the medical sciences, industrial chemistry, and the aircraft industry all preferred personal contact to going through an information department for the knowledge sought, and that this seemed an almost universal trend. It was necessary for information officers to adapt themselves to the habits of the technologists whom they served.

Suggestions were made for solving the problem of unread literature. It was thought that much information disseminated in literature remained unread because it was not presented in a form suitable to the potential readership. There was a great difference between supplying information to scientists and supplying it to management. The reading habits of the user should be considered editorially. The siting of an information department—in laboratories or in the head office—must also be affected by consideration of whether the service was to be used primarily by technologists or by management. The importance of introducing trainees and newcomers, on arrival, to the services of the information department was stressed by more than one speaker. Distribution of one-page digests of articles to executives and research workers was also advocated.

It was thought that the large percentage of reading done at home was attributable to two main causes: a genuine interest carried beyond working hours, and lack of sufficient uninterrupted time for study of the literature in laboratory, workshop, or office.

FARMINGTON REDIVIVUS: OR TEN YEARS OF CO-ORDINATED FOREIGN BOOK PROCUREMENT IN THE U.S.*

ROBERT VOSPER

Director of Libraries, University of Kansas

34th Annual Conference, Scarborough, 5th October 1959

IT is assumed in many circles that American university libraries are tremendously rich in books and also in dollars. There are to be sure at least twenty today with holdings of well over a million volumes each, and at least twenty-five have been able recently to acquire additional books at a rate of 40,000 or more volumes each year. Moreover, there are a fair number of American universities. The figures I give you are from the annual official statistics of the Association of College and Research Libraries, which records information for 110 major universities.

One might well assume in the face of these crude statistics that such well-heeled libraries would be smugly satisfied with their individual and collective book stocks and self-confident of their ability to acquire any books that might reasonably be wanted by their readers. Such an assumption might be heightened by the knowledge that a great many ancient and distinguished university libraries elsewhere are far smaller in gross size and in growth rate. Some might even consider these burgeoning American university libraries greedy beyond reasonable needs; but probably no one would be led by such information to call us a bookish people!

Yet the plain fact is that in recent years American university librarians have worried about the shortcomings of their collections, present and potential, individual and collective, and have given attention to means of extending their resources further, far more than they have worried about the many complications of large size and of rapid growth. To be sure there have been a few stern prophets gifted with foreknowledge of the proper and optimum size of a library book collection and certain that tragedy awaits the librarian who lets his library grow and grow like the beanstalk. Most of us, however, are guilty of *hubris* and determined that our primary mission is to acquire the books that are obviously and potentially of use for study and research, whatever the consequent problems of space and organization.

This concern about the inadequacies of our collections has hung about our necks for some long time, but it came to a climax, as far as current foreign books are concerned, during the second world war when we were abruptly cut off from the European book market and European libraries. At the federal level of urgent research and intelligence needs there was apparently much distress over gaps in our store of printed information about recent European advances. In consequence of this there was much discussion of the possibility of doing a more consistent and rational job in the future. The detailed record of these discussions which led to the Farmington Plan was concisely reported in the *Farmington Plan Handbook* prepared by Edwin E. Williams for publication in 1953 by the Association of Research Libraries. I will only make a few general points here.

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* The Chairman's introduction and Mr Vosper's preliminary remarks will be found on p. 333. The studies and arguments developed for the Farmington Plan survey discussed in this paper were published in a limited edition (mimeographed) by the Association of Research Libraries (1959) as *Farmington Plan survey; final report*, directed by Robert Vosper and Robert Talmadge.

It is of significance that these discussions in the early 1940s marked the first widespread and official recognition that the holdings of American research libraries are a resource in the national interest. This recognition persists today in the practice of American librarianship and, to one degree or another, in the councils of certain interested federal bodies, such as the National Science Foundation, the Central Intelligence Agency, the great federal libraries, and even, although much more obscurely and erraticly here, the Congress itself. Moral support, but to only an insignificant degree financial support, at this federal level has, of course, been a primary factor in at least projecting a national co-operative effort among a large, somewhat miscellaneous, and widely scattered group of mutually independent, often jealously independent, institutions. I think I can say, however, that now the point has been made it is the librarians themselves, with at least the tacit support of their governing bodies, who have engineered, managed, and expanded the operation of the programme; the spirit and practice of national co-operation are well established, in the face, to be sure, of some inertia and some scepticism.

At no point has there been, however, direct or organized federal participation in planning or management, except in so far as the primary federal libraries have shared individually in the undertaking on an equal basis with the other participants. The Farmington Plan is a purely voluntary association. This is a matter, I think, worth some notice and bringing some credit to the public conscience of American librarianship. You should recall that forty-six of the sixty participants are university libraries, and that American universities, like yours, are sternly independent of federal interference in academic matters. We have nothing like the French or Italian national universities or national inspectors of libraries, and we are not likely to have any such. Each librarian is directly and solely responsible to his own faculty, president and trustees, and each university seeks its own place in the academic sun. Moreover, the sixty are a varied, at least not a uniform, group of libraries. The group ranges from the ancient, aristocratic, and private libraries such as Harvard and Princeton to such typical and modern State universities as Oregon and Oklahoma; it includes the Brooklyn and Detroit Public Libraries as well as the again aristocratic and private Newberry Library; it includes the Georgia Institute of Technology, the Teachers College of Columbia University, and the Library of the United States Coast Guard. I have said it is a widely scattered group, and perhaps the factor of distance in American society is too frequently stressed, but it may be useful to recall that the universities of Washington and Florida, both Farmington participants, are in fact as far apart as London and Baku on the Caspian, and that such snugly related institutions as the University of California in Berkeley and the University of California in Los Angeles are as is London to Edinburgh.

As I suggest, I think that these are powerful factors that might well inhibit joint effort; thus I think that our halting steps to serve the national needs of scholarship and research, in so far as we understand them, by way of a rationalized and co-ordinated procurement programme merit some notice.

What, then, does this joint effort amount to? The following concept was laid down when the Plan was adopted in 1947: 'Its objective is to make sure that at least one copy of each new foreign book and pamphlet that might conceivably interest a research worker in the United States will be acquired by an American library, promptly listed in the Union Catalog at the Library of Congress, and made available by interlibrary loan or photographic reproduction'. This was the large intention, and gradually an elaborate machinery was put into motion to approach the intention. The first attack was on Western Europe, and only slowly there at first. You will recall that for a few years after the war the European book trade and national bibliography were disrupted, so that normal procurement channels were often ineffectual. Individual American libraries often found it difficult to acquire books they wanted, so the creation of a mass enterprise was not simple. Partly because of this general difficulty of procurement we were anxious to find if possible a speedy and relatively automatic procedure that would assure some uniformity of result at each library and avoid undue duplication of effort among the several libraries. Thus gradually in each of the countries of Western Europe, with the exception of France, a bookseller was appointed to select the desirable current books, with such advice as we and a librarian adviser in the country of origin could provide, and then to forward these books to the appropriate American libraries, each library being responsible for a particular field of knowledge. Painfully we developed criteria whereby the dealers could presumably select from the gross publishing output. The result in effect was a standardized 'blanket order' or 'open order' serving all sixty participants.

Progress was slow. Communication, leading to agreement, among sixty institutions and with the several European agents, was not a simple business in itself. The formulation of book selection criteria reasonably valid for all libraries, all fields of knowledge, and many languages posed continual, changing, and complicated problems. The general business machinery, although not actually unduly cumbersome, could not be devised full blown; it had to develop by trial and error. The wonder is that things went forward so well. Within ten years, that is by 1958, the Plan was operative for all of Western Europe and a start had been made, albeit a limited and scattered one only, into other parts of the world. Europe in the years before and just after the war had been the centre of our concern; we had been caught short by a lack of European books, and most of the academic effort in most of our universities had been concerned with our European heritage. For these several reasons the original Farmington activity pretty well lost impetus and imagination once it moved aside from Western Europe; it became deadlocked behind a mental Maginot Line.

But throughout the ten years there were doubts and complaints, scattered and annoying ones about details of operation as well as fundamental ones about the continued need for the Plan itself, to the point where a decennial review seemed advisable. The ARL, an organization similar to your SCONUL, which operates the Plan even though only one-half of the Farmington participants are ARL members, decided in 1957 to initiate a survey which would 're-examine the purposes, scope and results of the Farmington Plan'. Financial support was provided by the Council on Library Resources, a recently established affiliate of the Ford Foundation; and my associate at the University of Kansas Libraries, Mr Robert L. Talmadge, and I gave most of our spare time to this endeavour during the period between October 1957 and March 1959. The primary questions were these: Has the Plan been demonstrably fruitful where it has operated? Should it be modified, or has the need for it actually passed? Should it be extended to other parts of the world? Should it be concerned with library materials not now covered by the Plan, such as journals, newspapers, official government publications, etc.?

In an attempt to assay the dealer-centred operation in Western Europe we set several tests. We asked a statistician to select a scientifically valid random sample from the total number (the statistician would say 'the universe') of titles delivered during the ten-year period. The titles thus carefully selected were checked against the National Union Catalog to see which, if any, were held in but one copy in the United States and the extent of duplication. The uniquely held titles were a crucial group. We could assume if more than one copy of a book had come into the country, one only by way of Farmington, that some library considered that book a defencible purchase. But what about the books procured only by the Farmington agents? Were they desirable books on second thought? Could they have been acquired more simply by some other mechanism? We asked the recipient libraries to review the unique titles with these fundamental questions in mind. The essential discovery was that the Farmington Plan had produced an important amount (12.68 per cent) of uniquely held and desirable books that might well have been missed in a normal library procurement programme. This seemed to us to be a fair profit, too much to throw away lightly. We also found some unique but undesirable, or at least unimportant books, but this was a smaller percentage, and here we attempted to identify their nature in order to ascertain whether modifications in our criteria could limit the delivery of pure dross.

Some other tests were set. A university specialist in economics analysed books reviewed and noted during selected years in leading French journals of economics, and comparisons were made with Farmington Plan deliveries as well as with the general holdings of American libraries. The Spanish and Scandinavian national bibliographies for certain years were annotated by academic experts and specialist librarians, and these also were compared with Farmington and non-Farmington procurement. A special analysis was made of books in physics delivered under the Farmington Plan. In the final analysis we looked at a variety of subjects: economics, physics, belles lettres, and history. We looked at countries with a well-organized book trade as in Scandinavia, and we looked at Spain. We looked at countries with a large book production as well as at smaller ones. We looked at a country such as France which is of widespread interest to American university research, and we looked at Danish literature which is a rather exotic subject in the States.

These several detailed analyses suggested to us that Farmington procurement procedures at work in Western Europe on balance had been valuable for American libraries, that by slight modifications some shortcomings could be eliminated, and that we have not yet reached the point, although this may yet well happen, where we can abandon the Farmington programme in Western Europe. This opinion was, I think, quite contrary to the assumptions of many critics of the Plan. They had assumed that by now, with the European book trade and bibliography in fair order and with American libraries vigorously buying books, we could depend on the normal, unco-ordinated procurement programmes of American libraries to produce each year a fair coverage of current European publication. It would have been much simpler all around if we could have found justification for such an assumption.

But far more important than this decision to continue and strengthen the European programme was our analysis and focus of attention on the critically rising need for books published in other parts of the world where selection and procurement are considerably more difficult because of the low state of the book trade and bibliography and because of linguistic problems. Europe is no longer the critical or central bibliographical problem. We found the scholarly community disturbed and hampered by other large gaps in our programme. The American Council of Learned Societies was concerned about our thin holdings of currently published East European books; the Social Science Research Council needed library aid in support of Middle Eastern studies; the Association for Asian Studies was ready to support a Farmington effort in the Far East; a study group composed of librarians and university faculty was demonstrating our startling shortage of Latin American books.

The general conclusion was that we had become bogged down in the details of the programme in Western Europe to the neglect of more recent and critical needs. We had also been bound up in a semantic net. Too many of us had forgotten that Farmington was based in a broad concept of the coverage of the world's literature and had thought of the Plan as a particular procurement procedure based in selection by foreign dealers on the basis of gross and standardized criteria. Opponents of that method of acquisition had opposed extension of the Farmington activity to other parts of the world because they assumed no other method of selection or procurement would be acceptable under the Plan. This, of course, was an unfortunate misconception which we hope we have now eradicated.

In any event, the time seemed ripe and the resources at hand to undertake a truly global effort, the machinery for which is now being forged. A series of area sub-committees have been established, each responsible for developing adequate liaison with specialist academic societies and for proposing selection and procurement programmes suited flexibly to the bibliographical factors of the area in question as well as to the known needs of American research. It is clear in this expanded effort that the book market of Russia differs from that in Switzerland, not to speak of that in Ghana. Furthermore, it is clear that the extent and depth of American research interest in the current publishing output of India is of a different order from that of France or Brazil. These sub-committees have before them a series of detailed area working papers, prepared as part of the survey that Mr Talmadge and I directed, discussing the publishing output, the probable amount of that output which is of interest to American libraries, the cost thereof, the American libraries that may be in a position to share in a procurement programme, and various selection or procurement mechanisms that may be applicable.

Thus, after ten years the Farmington effort, for which many were raising a tombstone, has not been buried, but revived and extended.

At this point we might ask what this American experiment means for libraries elsewhere. It is worth remembering that since the war the German university libraries have been operating their own type of foreign procurement programme through the Deutsche Forschungsgemeinschaft. More recently the Scandinavian research libraries have laid plans for a programme in which the three countries will operate as a unit, perhaps the first intensive project in international library co-operation; this development may be particularly suggestive for other countries in the Anglo-European area.

It certainly appears to be the case that some rational division of labour is essential, on a national or multi-national basis, if any significant part of the world's current publishing output is to be garnered usefully for scholarship and research. The concept of the universal and self-sufficient single library disappeared long since, but we have not yet fully worked out the multi-library pattern, or the pattern of the library-complex. We know full well that the rate of publishing is rising sharply, and we know that publishing becomes important and rises in rate in many countries that were recently of interest to but a few anthropologists. The essential responsibility of librarians in the face of this expansion is clear; how we shall carry out the responsibility is less clear. I can only suggest that we need far more discussion and experimentation than we now have, if we are to answer some of these large questions: Should the essential books be gathered together at one point or at several points in any one country or group of countries? Should selection be by specialists in the recipient country or in the country of origin? Should selection be by librarians, by book dealers, by academic specialists? Is an adequate accumulation of current books more important than the caulking of retrospective holes in collections? To what extent can we look toward international interlibrary loan to serve urgent research, or photographic reproduction for that matter? How do we face up to the startling problem of the variety of vernacular languages in which significant books are now appearing? What portion of the current world's output is essential to research elsewhere than in the country of origin? How long, if at all, can we wait on the growth of comprehensive deposit libraries in the newer countries? How can we encourage more efficient bibliography and book trade in the newer countries? Do we have the resources to do a thorough job of world coverage? If not, whose responsibility is this? Can books be selected on a mass basis rather than on individual basis without doing hurt to our professional pride and dignity?

These are some, and only some, of the questions librarians should be grappling with. Certainly we in the United States need more information than is now available to us and we proceed uncertainly at many points. It is now ten years since Miss Marjorie Plant made her study of *The supply of foreign books in the United Kingdom* (Library Association, 1949) and some years since British libraries at various points began experimenting with subject specialization. More recently your SCONUL group has been discussing this general question. The generous plans for your new National Lending Library for Science, under DSIR will no doubt assure the country of an adequate supply of current foreign scientific literature. Perhaps the next tentative answers will be British-made.

Perhaps so tough-minded and tight-knit a group as Aslib will have suggestions to offer.

INTRODUCTORY REMARKS AND DISCUSSIONS

The Chairman of the session, MR R. L. COLLISON (BBC Librarian), introduced the speaker, who was kindly filling the gap caused by Dr Lawrence Clark Powell's inability to attend the Conference, as follows:

Eight years ago to this very day our speaker and I stood in a brilliantly sunlit room in California in front of a large packing-case. Our chief, Dr Lawrence Clark Powell, the Librarian of the University of California at Los Angeles, laughed and, flourishing a giant pair of wire-cutters, proceeded to unfasten rapidly a rare consignment of seventeenth-century pamphlets that had just arrived from England. It was my first day on duty and I was unused to Dr Powell's whimsicalities. When, therefore, a Los Angeles reporter approached Dr Powell to check our names I was totally unprepared to hear him say laconically: 'Yes, Dr Vosper and Dr Collison. We are all doctors here'. And so indeed we appeared next day under a somewhat dramatized photograph.

Dr Powell, as I was soon to find out, had much of the Texan in his make-up in his propensity for leg-pulling—a hobby of his that sometimes went to extraordinary lengths—but later on, as I worked through that memorable year in the incredible but real pioneer Southern California of the mid-century, I realized that something deeper lay beneath Dr Powell's apparently indiscriminate distribution of doctorates. He really did believe, as he has since written in his newly published volume *A passion for books,* that 'Librarians can be a priesthood to minister to the needs of bookless people'.

However little I myself may have such a calling, I can at least assure you that our speaker tonight is fully qualified for this. Mr Vosper was Dr Powell's second in command at the University of California at Los Angeles and I soon discovered that the university library there owed much to his flair for administration. I also learnt that in working for Dr Powell and Robert Vosper I was working for two brilliant librarians who were rapidly building an amazing collection of material in an area that desperately needed it. And I found out from other colleagues that Mr Vosper was widely regarded as one of the outstanding of the younger university librarians. It was therefore not very surprising to me when, shortly after my return to Britain, to hear that Robert Vosper was the University of Kansas' choice for their new Director of Libraries, and reports during the past six or seven years have fully demonstrated the wisdom of the Senate in making this appointment. But Mr Vosper has never been one to limit his interests and activities solely to the library in which he works: he has constantly taken a full share in the arduous tasks of committees and working parties that lie too well concealed behind the learned decisions of councils and boards.

Mr Vosper is, in fact, a far-sighted man: at a time when everyone in the USA was discussing compact storage of books and periodicals, Mr Vosper was already organizing provision for the co-operative storage of microfilm in the West. And he has similarly kept in the forefront of all co-operative schemes relating to the great research libraries of America. Mr Vosper has probably no equal in his grasp of the urgent problems confronting us in both techniques and documentation today, and I shall no longer stand between you and what I am certain will be a thoughtful and masterly survey of a scheme that has many lessons for us all.

In reply Mr Vosper prefaced his paper with the following observations: I came at first hand to admire, or at least to wonder at, the firm courage of the British citizenry during the August weeks this summer when my family and I were living happily in South Devon. There I drove timidly down the narrow lanes, with their frequent blind corners, tightly lined with hedges that effectively prevent either a sight of the countryside or an emergency exit from the roadway. Just around many a sharp bend I came suddenly on to a dauntless British family—father, mother, elegant Victorian pram, and two toddlers sucking sweets—all wandering blissfully along in the face of motor traffic as dense and urgent as on the London Ring Road at 5.30 p.m.

Similarly here I marvel at the doughty courage of a group that will face up to a post-prandial talk with so dense a title as the one I present. You are apt to be mown down as flat as that little family in the Devon lanes, before this evening is over. My paper, I warn you, is as heavy and deadly as the American car I drive.

In addition to apologies for this failure to produce an attractive and fitting banquet speech such as you could have expected from my graceful friend and mentor, Lawrence Clark Powell, let me offer for your sardonic consideration these wishy-washy excuses: 1. I am a lazy man and a slow generator of speeches, so when the invitation to join you reached me during my Devon holiday I couldn't compel myself to settle down to hard work; 2. This is my first visit to Britain and I have been completely bemused by the charms of your countryside, your countrymen, your food, and your drink, as well as by your pubs where several of these other charms often come together lovingly; this state of mind and situation only intensified my dislike of speech writing; 3. As you will have assumed, I already had a paper prepared on the Farmington Plan, so I have adapted it slightly to a different purpose. In my circles at home we term this familiar practice 'living off your academic fat'. I hope you people have some slight tolerance for fat.

DISCUSSION

In reply to questions during discussion Mr Vosper said that the 13 per cent uniquely held books that he had mentioned represented books that were clearly desirable but that would have been missed for one reason or another by normal selection methods. There were 38 per cent of books that were uniquely held in that no other copies existed in American libraries.

At present there were no records to show how much use was made of the books acquired under the Farmington Plan. The scheme had not yet progressed far enough for a reliable answer to be given to this question; when the plan had been in operation for twenty to twenty-five years there would be sufficient records to show results.

Purchases over the first ten years had amounted to 125,000 at a cost of $275,000. Individual libraries paid for their own purchases and the number had not increased appreciably, averaging 19,000 books per year. Evidence showed that supplies were adequate, with a slight surplus.

No attempt had been made to set up a pattern of subject demarcation; books were allocated pragmatically, current volumes being sent to those libraries willing to take them, whether they held large collections of the subjects or not.

British books were not included in the scheme. Selection of periodicals by the Farmington method was under consideration.

In most countries selection had been left in the hands of book dealers, who were often advised by libraries, but in the only two countries where selection had been left entirely in the hands of the respective National Libraries the results had been unsatisfactory.

Mr Collison thanked Mr Vosper for his interesting and informative paper and pointed out that there were other methods of acquiring books than those used in the Farmington Plan. There had been, in London, a Procurement Officer appointed by the Library of Congress who had served in more capacities than one: he had established contact with the British library world and become for them a friend and contact and an interpreter of American thought and practice in librarianship. Australia had a Procurement Officer in the United Kingdom at the present time, who had been able to teach British librarians much about their own field of work. It would be a good thing to have Procurement Officers here from all the major countries and from each group of minor countries, and all should share the cost.

JAPANESE SOURCES OF SCIENTIFIC AND TECHNICAL INFORMATION

K. B. GARDNER

British Museum, Department of Oriental Printed Books

34th Annual Conference, Scarborough, 6th October 1959

JAPAN, like Great Britain, is an island nation, small in area but thickly populated and highly industrialized. Its existence depends on a flourishing export trade, and there is not much doubt that it leads the countries of the East at present in scientific and technological development. (Whether it will be overhauled by China within the next ten or twenty years remains to be seen.) To maintain its lead and to cope with an expanding demand at home and overseas for improved industrial techniques, it needs an extensive programme of scientific research. Some £35 million was spent by Japanese industry on research during 1958. This is carried on in Japan by four main types of research organization: government-controlled research institutes and experimental stations, both national and local; the universities; business firms and trade research organizations; and learned societies in every field of study.

These four groups between them issue a vast amount of literature. It is no easy matter, as we in the West know only too well, to keep effective bibliographical control over such a huge mass of information and to present it in the most convenient form for a multitude of users. In Japan the problem has only been tackled in comparatively recent years. Before the war there was little attempt to organize scientific information for the benefit of researchers and industrial users. Possibly the only exception was in the field of chemistry, where *Japanese Chemical Abstracts* have been published since 1927, and to a lesser extent in medicine and pharmacology. In the hard, competitive conditions of the post-war years, with western examples before them, the Japanese saw the need to collect and circulate new scientific information, partly for the benefit of scientists at home and partly to inform the world of their progress and achievements. The result is that we now find much more effective bibliographical control of most branches of science and technology, and the beginnings at least of planned information services for industry and the public. But it must be emphasized that only a start has been made. There is still not enough co-operation and planning at the top level. There is still a profusion of small and sometimes competing local organizations and a lack of strong national ones. There are too many small and independent attempts at compiling lists and bibliographies, which lead to hasty production and incompleteness. And there remains perhaps some mutual suspicion and unwillingnesss to co-operate among government agencies, the universities, and industry.

It would be well to remember at the start that the Japanese scientist needs information from two main sources. He needs to know what his colleagues are doing all over Japan. But perhaps even more important to him is the constant stream of foreign literature reaching Japan from every country of the world, and chiefly in western languages. This he cannot afford to ignore, and so a large part of science documentation in Japan today is concerned with organizing this material and making it more readily available to users in Japan. It is significant that the newly formed Japan Information Center of Science and Technology takes more than twice as many foreign periodicals as Japanese, and at present publishes only western material in its bibliographies and abstracts.

Publishing in Japan. Before considering Japanese scientific publications and information services in detail, it might be useful to say something about publishing in general in Japan. Not everybody knows that Japan has the second highest publishing figures of any country in the world. Japan's production of new books in 1957 stood at over 25,000, and was only topped by that of the Soviet Union. It exceeded the figures for Great Britain, the USA, Germany or France. But it must be admitted that a fairly high proportion of modern Japanese books are hastily written, ephemeral and of little value.

JAPANESE NATIONAL BIBLIOGRAPHY

Now, to keep track of what is being published in Japan the inquirer overseas has a number of guides at his disposal. First comes the *Japanese National Bibliography*, which has been published in book form ever since the foundation of the National Diet Library in 1948 and represents one of the most impressive achievements of that Library. It takes the form of weekly parts, generally about eight to ten pages long. The text is entirely in Japanese. Books are classified under the main divisions of the Nippon Decimal Classification, with subdivisions where necessary. Once each month a supplement is issued giving the titles of current periodicals, and at the end of the year appears an annual supplement listing all periodicals in progress. About 4,000 or 5,000 periodicals were listed in the 1957 volume, not counting newspapers.

These weekly parts are cumulated in an annual volume, again entirely in Japanese, which lists the whole volume of books, periodicals, and government publications issued during the year. Its usefulness, however, is rather limited by the delay in publication—now almost two years. But this drawback is not so serious as it may sound, for we have both the weekly parts and a national bibliography on cards to give a more up-to-the-minute account of works just published.

The card bibliography, also issued by the National Diet Library, covers much the same ground as its counterpart in book form, and cards are available to libraries in Japan and overseas within a month or two of the publication of the book. Entries are well printed by ordinary letterpress printing on standard-sized cards, 5 in. × 3 in.; the main entry is under author, and there are full bibliographical details for each book, with the author's name appearing in roman letters at the foot of the card. We have at the British Museum a complete file of this card bibliography dating from the middle of 1953 when the scheme had got well under way.

SCIENTIFIC LITERATURE

Turning now to Japanese scientific literature and information services, I propose to consider these under five broad headings. First, the literature itself and how it is covered in bibliographies, indexes, and abstracts; secondly, Japanese libraries and the services they provide; thirdly, scientific societies, government agencies, and documentation centres; fourthly, Japanese scientific literature available at a few libraries in this country; fifthly, how such literature may be of use to non-linguists over here, and how it may be obtained.

Government Publications. An important part of Japan's output of scientific and technical information is to be found in the publications of government departments and research institutes. These are listed in the annual *Consolidated list of Japanese Government publications.* This is in Japanese, and the title is *Kanchō kankōbutsu sōgō mokuroku.* Annual volumes have appeared since 1950. The latest number which I have examined, volume 6, covers all official publications issued between January and December 1956. It is classified primarily by subject. Within each subject the arrangement is by the department, bureau or research station which issued the work. Works issued by the same department are then listed alphabetically. Although the language barrier will make this a difficult list to use, it is in fact conveniently and helpfully arranged and it has a good index. This, however, is an index by departments and not by titles of works, so that there is no way of tracing a publication of which only the title is known. The coverage is comprehensive for the year under review. Books, periodicals, and pamphlets are all listed. The annual volume usually appears a year or more in arrears, but there is now a monthly list to give a more up-to-date check on government publications.

Japanese Periodicals Index. One of the chief contributions of the National Diet Library in the field of science is the *Japanese Periodicals Index* (*Zasshi kiji sakuin*). This is again an all-Japanese publication. There are two parallel series of this index, Humanities and Natural Sciences; I shall only describe the second one. It used to be published monthly but is now issued quarterly. Each issue runs to about 300 pages or more and covers about 1,000 scientific periodicals currently received by the National Diet Library. The arrangement is by subject, entered first under broad headings and then by specific topics. At the beginning of each volume is a synopsis of the subjects covered; then follows the main body of the index, following the subject order set out in the synopsis, and listing individual articles by authors' names under those subjects. There are four main subject headings, each of them subdivided in some detail: 1. physics and chemistry; 2. medicine and pharmacology; 3. engineering and technology; 4. industry, including agriculture and fisheries. An example may make the principle of arrangement clearer. Under the main heading Engineering, sub-heading Building construction, appears an article by Washio Kenzo and others on 'Postwar progress in building construction'. The entry goes on to tell us that this article was published in the journal *Kenchiku to shakai* (*Architecture and Society*), vol. 39, no. 2.

At the end of each volume is an author index and a classified list of the journals indexed. This list, whilst certainly not complete for all Japan, covers a good proportion of the most worthwhile Japanese scientific periodicals. The index as a whole is easy to use (provided one reads Japanese!) and is very valuable indeed in tracing an article of which the author or subject is known. The only criticism is that there are no cumulations, and one must know the year and preferably the quarter in which an article was published in order to be sure of finding it.

Lists of periodicals. There is a great need nowadays for a complete directory of Japanese scientific periodicals, especially one which will indicate those journals whose text is in English and those which carry abstracts in English or some other western language. Several partial lists occur, but they all suffer from shortcomings of one kind or another even when compiled by normally responsible bodies.

First comes a *Bibliographical list of Japanese learned journals* (*Natural sciences*), published by the Ministry of Education in 1957. Judging by the numerous misprints, this must have been compiled somewhat hurriedly, but it is at least in English. The list is conveniently arranged under subject headings taken from the Nippon Decimal Classification, with UDC equivalents given. Within each subject entries are arranged alphabetically under the English title. Information given for each periodical includes: Japanese title, name of issuing body in English and Japanese, address, frequency of publication, date of first issue, whether or not there are English abstracts or contents lists. The compiler has worked out a complicated system of abbreviations to convey these bits of information. Most of the abbreviations are *not* self-explanatory and need constant reference back to the key. The compilers admit that they have missed some important titles through not having access to the periodicals in question, and the list suffers from having no index for either Japanese or English titles.

A rather better list, probably not complete but still the most comprehensive of its kind, is the *Directory of Japanese learned periodicals*, compiled by the National Diet Library and published by Tokyo Library Bureau in 1957 and 1958. This is issued in four parts; parts 2 and 3 deal with pure and applied science. The aim here is a practical guide to *current* Japanese periodicals, and no attempt is made to list those which had ceased publication by 1957. The list is classified by UDC, with an alphabetical arrangement by title within each class. Japanese titles are romanized for the convenience of western users. Other information for each item includes: Japanese title in characters, English title, name and address of publisher or issuing body, frequency of publication, language in which written, price, and existence of abstracts in a western language. The list as a whole is a very workmanlike job. Its only serious drawback is once again the lack of an alphabetical index of titles, which is really essential for a list of this size (900 journals in the section on pure science and medicine alone).

Scientific periodicals are also listed in a union catalogue of periodicals compiled by the Ministry of Education in 1954. This gives the holdings of seven of the principal university libraries in Japan, with details of volumes and parts held by each library. One of its four volumes deals with science and technology; the text is in Japanese throughout. This union list is useful so far as it goes, but it was compiled rather hastily in the unsettled conditions just after the war and, although published in 1954, it includes holdings only up to 1947. None of the important new postwar periodicals is included. A revised edition is said to have been published recently but I have not yet been able to trace a copy.

Bibliographies, indexes, and abstracts. Scientific documentation on a more or less limited scale is carried out separately by a large number of Japanese organizations. Learned societies and professional groups issue bibliographies and abstracts in their own field, and provide documentation services for members. So also do industrial firms and trade groups. But from the point of view of the westerner the most valuable of all such publications is the *Japan Science Review*. This appears in four series: medical sciences, mining and metallurgy, electrical and mechanical engineering, biological sciences. All of them are written entirely in English, and are sponsored by the Ministry of Education although the material is chosen and edited by various collaborating professional bodies.

Japan Science Review: Medical Sciences. Medicine is now one of the best documented of all Japanese sciences. This section of the *Review*, edited jointly by the Science Council of Japan and the Ministry of Education, is an extremely impressive and professional piece of work. The latest issue to reach us at the British Museum is the second part of volume 6, published in March this year and covering the period July–December 1957. It is divided into two sections, bibliography and abstracts. The first presents about 6,000 titles of papers appearing in over 260 journals dealing with medical and related sciences. From these, about 430 items have been selected for their special importance, and abstracts of these articles form the second section of the *Review*. The English is wholly intelligible, which cannot always be said of Japanese publications in our language. The items are well arranged under UDC numbers and headings, and there is a full index of authors as well as an alphabetical subject index to the UDC classification used. The cost of the half-yearly volume I have described is £1 14*s*., which does not seem excessive. Subsequent volumes are to be published quarterly, according to a note in the latest volume.

Japan Science Review: Mining and Metallurgy. This again is in two parts: a straight list of articles in eighty-three periodicals, arranged in four sections under the English titles of the journals. Full references are given for each article. The second part consists of English abstracts, classified by UDC. About 180 articles were abstracted in the latest volume, and the standard of English translation in these abstracts is high. Two issues appear each year, with an index of authors. It has been rumoured that this Mining section of the *Review* may cease publication, but I have no direct evidence of this.

Japan Science Review: Mechanical and Electrical Engineering. This has been running since 1949, dealing at first with the whole field of engineering sciences. Like the rest of the *Review*, it is divided into two parts. The first lists articles from more than 100 technical journals, under the four headings, learned societies, universities, research institutes, and business firms. The second and more important section is again a selection of abstracted articles from the list. There is an author index and a useful section at the end containing reviews and surveys of current progress in the engineering field.

A fourth section of the Japan Science Review, *Biological Sciences,* is compiled by the Japanese Association of Agricultural Science Societies. It follows the same plan as other parts of the *Review,* but I have not been able to examine a recent volume.

I have dwelt at some length on the *Japan Science Review* because of its importance as the only abstracting organ of any scope in English, but there are many more Japanese and bilingual ones.

Other bibliographies and abstracts. In October last year a very useful short guide to *Scientific and technical information services in Japan* was published by the Science Council of Japan. This has an appendix which lists all those periodicals containing bibliographies and abstracts of scientific literature. The list is surprisingly large. It amounts to 110 separate items, classified by subject. Publications of learned societies, trade associations and government agencies are all included, so long as they contain abstracts or a current bibliography of their subject. But the adequacy of the services provided varies enormously. Some are of wide scope like the *Japan Science Review*; others are quite small. Some contain abstracts only; others a classified bibliography of a particular subject. Some are separately published; others appear as an appendix to some journal.

The best of the individual abstracting services in Japanese is *Complete Chemical Abstracts of Japan,* which has been published monthly ever since 1927. This has an annual index of authors and subjects, and two long-term cumulative indexes covering the years 1877–1955. Abstracts of Japanese chemical literature regularly appear in the American *Chemical Abstracts,* translated of course into English. In Japanese, medical abstracts are provided in *Igaku chūō zasshi* and metallurgical abstracts in *Seitetsu gijutsu sōran,* but other branches of science are not so well served.

To conclude this part of the subject I cannot resist quoting a cry from the heart of the author of the guide I have just mentioned. He says: 'Bibliographic and abstracting services are very useful when they are made but too expensive when we have to make them'!

JAPANESE LIBRARIES

I should now like to say something about Japanese libraries and the part they play in documentation.

There has always been a tendency in Japan to think of libraries as storehouses and not as workshops. The emphasis has traditionally been on conservation rather than use. Public libraries in the western sense have been slow to develop, and even today library users have nothing like the freedom enjoyed by readers in western countries. A good deal of progress has been made since the war, however. At the apex of the library system in Japan today stands the National Diet Library, closely modelled on the Library of Congress. In ten years it has grown astonishingly. Apart from the services it renders to Diet Members and to the general public, it also deals with requests for scientific translations, publishes the *Japanese Periodicals Index* which I mentioned earlier on, compiles lists and catalogues in special fields such as atomic energy, and supplies photographic copies of scientific material. Most important of all, it functions as the national exchange centre for government publications and annually sends out more than a hundred thousand official publications in return for those of foreign countries, including much scientific material.

Among special libraries in Japan the most active and probably the best organized group is the Japan Medical Libraries Association. This was established in 1927 and has since operated an interlibrary loan system, compiled union catalogues of books and periodicals, and run summer schools for librarians. With this as a model, the Japan Pharmaceutical Library Association was formed in 1955 and is now active in its own special field.

For information on Japanese libraries and the services they provide, one of the most useful guides is the *Directory of research libraries* compiled by the Special Libraries Association in 1956. In the preface the President of this Association notes with regret the lack of systematic co-operation between research organizations in Japan and hopes that this *Directory* will spread a wider knowledge of each other's work and will lead to more exchange of information and inter-library loans. More than 1,000 special libraries are included in the *Directory*. These are arranged under the subjects they cover, and by far the greater part of the book is taken up with science, technology, and industry. Each entry includes a brief outline of the library and its holdings, its address, services offered to the public, and a full list of the library's publications. The text is partly in English and partly in Japanese. This is an admirably thorough and well-organized reference book, easy to handle and a model of its kind. It shows that the importance of libraries and information activities is now recognized in Japan, and that co-operation is growing.

Scientific Societies, Government Research Institutes and Documentation Agencies. Here the field is so great that I can only suggest a few guides. First, what scientific societies exist in Japan? The Japanese National Commission for Unesco published jointly with the Ministry of Education in 1954 a *Handbook of scientific societies in Japan.* This is by no means complete, but it does give quite full and useful information in English about the societies included. It covers both independent associations and those which operate within the universities. For each one the following details are given: name of the society in English and in Japanese, address, staff, history, purpose, publications, membership, meetings, and library. The arrangement is by a simple system of classification, and at the end is an index of periodicals issued by the societies listed.

A revised and enlarged edition with the title *Handbook of learned societies in Japan: natural and applied sciences* was published early this year by the Higher Education and Science Bureau of the Ministry of Education. This is a great improvement on the old edition and the number of entries has risen to 323. Much information is given in a short space by a system of abbreviations, and again an alphabetical index of publications is appended to the list.

A similar list, smaller in scope, is the *List of science societies and associations in Japan* compiled by the Association for Science Documents Information. In arrangement and layout it resembles the *Handbook* just described, but it covers no more than 112 societies and not all of these are strictly scientific. There is no index of publications.

Government Documentation Centres. The Japanese Government now spends considerable sums of money both in supporting scientific research and in publicizing the results of it. In the second category comes the Japan Information Center of Science and Technology, founded as recently as August 1957, and now by far the most important of the documentation centres. It has a generous budget and a staff of about 100, backed up by co-operating scientists outside. Its object is to collect, store, and retrieve information on science and technology from foreign and Japanese sources. To do this it has been taking about 1,000 Japanese and 2,500 foreign periodicals since the beginning of 1958. Articles in these are classified by UDC, abstracted, and entered on cards, from which they are to be 'retrieved by means of mechanical devices', as the Center claims. This means, I understand, the use of a punched-card system, but it is doubtful whether the system is actually in operation yet.

The Center has three major publications, concentrating entirely on foreign scientific literature.

1. *Current Bibliography of Science and Technology*, which covers the whole field except for agriculture, forestry, and medicine, but only from western periodicals. It is issued in six series, monthly or fortnightly: chemistry; physics; general and mechanical engineering; electrical engineering; architecture and civil engineering; geology, mining and metallurgy.
2. *Foreign Patent News*, a classified index of new chemical patents of the USA, United Kingdom and West Germany, issued weekly.
3. *JICST Monthly*, in Japanese. The Center has also published three separates, including a general index to *Japanese chemical abstracts* and a booklet on the *Present state of scientific information activity in Japan.*

For foreign inquirers the Center offers a number of useful services. It will answer reference queries from both published and unpublished sources, charging $2.50 per hour working time. It will supply English abstracts of up to 200 words from articles and patent specifications in Japanese at a cost of $2.50 per abstract. It also provides a translation service from Japanese to English, and will supply photo-reproductions on microfilm and paper prints.

During the past year the Center dealt with orders and inquiries from 500 foreign institutions, and with a vastly greater amount of business from domestic sources, mostly photographic requests. For its library, the Center would welcome exchange material from other institutions overseas. It has already sent out a *List of scientific and technological Japanese periodicals for exchange*, which gives 474 journals of recognized scholarly value, listed under their English titles. Any of these the Center is willing to supply in return for foreign scientific periodicals.

I have already remarked how scientific research in Japan has hitherto lacked co-ordination and been carried on independently by many different institutions, governmental and private, large and small. This tendency continues, but there is now a government agency for the overall administration of scientific and technical research. This is the Science and Technics Agency (Kagaku Gijutsu-chō) set up in May 1956 under a Director-General who is a Minister of State with Cabinet rank. Apart from its chief role as Japan's central administrative organ for science, the Agency controls a number of government research institutes including those responsible for the peaceful use of atomic energy. It also carries out a big publication programme. Only the universities are excluded from the Agency's jurisdiction.*

An older organization of somewhat different scope is the Science Council of Japan (Nihon Gakujutsu Kaigi). This was founded in 1948 to promote the development of science in general and to represent Japanese scientists. It publishes a number of scientific journals of international repute, and its library has exchange agreements with more than seventy countries. One of its subsidiaries is the National Committee for Documentation, which represents Japan on the FID.

The work of the Higher Education and Science Bureau of the Ministry of Education in preparing the *Japan Science Review* has already been mentioned in detail. But it also subsidizes learned periodicals, supervises the compilation of union catalogues, and compiles directories and handbooks such as the 1958

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* See *Japan's administration for science and technology*, Annual Report of the Science and Technics Agency, 1959, for much useful information on the organization of research in Japan.

Directory of research scholars in Japanese universities and their research fields. This is a most useful aid in tracking down individual specialists and where they are conducting research.

AVAILABILITY IN BRITISH LIBRARIES

I should now like to say something about Japanese scientific literature available at the British Museum and elsewhere in London. Since the war an increasing number of exchange agreements have been reached with foreign countries, whereby official publications of HMSO are sent in return for foreign government publications. Flourishing exchanges on a very wide scale operate, for instance, with the United States, Japan and the USSR. As a part of the exchange with Japan, the State Paper Room of the British Museum receives much of the literature issued by research institutes and government departments. These are all catalogued and made available soon after arrival. A Kardex file is maintained in the State Paper Room listing all this Japanese material under the issuing department. There is also a separate index of titles. It cannot be claimed that much use is made of the material yet, partly, no doubt, due to the mistaken idea that it is all written in Japanese and would be quite unusable by a non-linguist. In fact, more and more Japanese scientific publications are written in English or at least have English contents lists or abstracts.

One of our problems is how to ensure that all worthwhile official publications are received from Japan. We have hitherto relied on the National Diet Library in Tokyo to send its own selection of exchange material, but now for the first time our staff are combing official lists and catalogues and asking for everything which seems promising. The Japanese for their part are entitled to select what they wish from the range of British government publications. The arrangement works well, and the State Paper Room now has about 1,200 entries in its Kardex file, most of them current periodicals.

It is of course a strict rule of the Museum that no book or periodical may leave the building on loan, but this Japanese material can be made quickly available to readers on the spot, or photocopies can be supplied if preferred. The Museum now has a 24-hour Rapid Service for photocopying, restricted at present to twelve pages for personal callers, but likely to be made a postal service soon.

I have explained that the British Museum's scientific material in Japanese consists largely of government publications. This is usefully complemented by the Japanese periodicals currently taken by the Science Library at South Kensington. I have seen a list of 250 of these and am assured that the total figure is probably double that. Most are non-government publications. They include the leading university and professional journals, which are of as high a standard as any in the world.

A fair proportion of Japanese periodical literature can therefore be consulted in London nowadays. But the position is nothing like so satisfactory with regard to books and separate works on scientific research. It needs only a glance at the Japanese National Bibliography to see how many of these are being published, and yet it is doubtful if more than a fraction of them are represented in any library in this country. There seems to be a good case for a far greater effort by British libraries to find out what Japan is publishing in the scientific field and to make sure that the best of it is available over here.

USE AND AVAILABILITY OF JAPANESE MATERIAL

Finally, to what extent can all this material be used by those who do not read Japanese? The point here is that much of it is already available in English. English is the second language of Japan, and there is a noticeable tendency for more and more Japanese scientific publications to appear wholly or partly in English. To illustrate this, I recently examined a cross-section of about thirty Japanese periodicals in the Science Library. The results were rather striking. Every one of the thirty journals had its title and the name of the issuing body printed in English on the cover. Twenty-one had their contents listed in English, and nineteen contained English abstracts of the articles. Ten of them were printed entirely in English; evidently quite a number of important research periodicals from Japan are published in an English edition as well as a Japanese.*

Even when articles are printed entirely in Japanese it is often possible to track them down from the *Japan Science Review* or from an English abstract elsewhere. They can then be translated—at a price!—either in Japan at JICST, or at one of the agencies in this country.

For librarians the cataloguing of Japanese publications may present some problems. It is difficult to know what to advise here, for although there are plenty of good technical dictionaries nowadays they are mostly arranged under the *sound* of the word and cannot be used by anyone who does not know how the Japanese characters are pronounced. This is the chief barrier to the westerner faced with a page of pure Japanese, and there is no quick way of overcoming it. It would be interesting to know what demand there might be for a kind of centralized cataloguing agency for Japanese books and periodicals in this country. If the demand was sufficient, it might be possible to set one up.

If the non-linguist is faced with *romanized* Japanese, and not characters, the problem is much simpler. Useful vocabularies of technical terms have been compiled by the Ministry of Education in the following subject fields: mathematics, physics, chemistry, zoology, botany, mechanical engineering, electrical engineering, civil engineering, architecture and building, shipbuilding, and mining and metallurgy. Each is in two sections: Japanese–English and English–Japanese. No definitions are given; these are straightforward lists of equivalents. The standard of accuracy is high and the vocabularies are extremely well printed. New dictionaries are also being issued in increasing numbers by commercial publishers, among them a dictionary of atomic power, so that the western translator from Japanese is gradually becoming better equipped.

There is no problem nowadays in ordering books and periodicals from Japan. They are supplied regularly and quite efficiently by booksellers like the

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* A much more elaborate survey, on similar lines but covering 1,113 periodicals, was carried out by the Higher Education and Science Bureau, Ministry of Education. Results show that 50 per cent of all scholarly journals publish some of their articles, or résumés, in a western language: 5 per cent are written entirely in a foreign language. For journals dealing only with pure science the figures are 80 per cent and 40 per cent respectively. (See *Distribution of languages in the scientific and learned journals of Japan,* in a report on international exchange of publications in the Indo-Pacific area, entitled *Exchange of ideas: East and West meet the challenge,* National Diet Library, Tokyo, 1958.)

Far Eastern Booksellers, Japan Publications Trading Company, Charles E. Tuttle, and Maruzen. Official publications may be ordered from the Japanese Government Publications Service Centre which now operates in Tokyo.

Japanese scientific literature is no longer the closed field that it used to be. It is freely available to foreign libraries and research workers, and there is a useful selection of printed guides and bibliographies, as I have tried to indicate, which will point the way to any western scientist who cares to use them.

LIST OF REFERENCE WORKS QUOTED

Japanese National Bibliography: weekly parts. (Nōhon shūhō. Kokunai shuppanbutsu mokuroku.) National Diet Library.

Japanese National Bibliography: annual volume. (Zen Nihon shuppan-butsu sō-mokuroku.) National Diet Library.

Consolidated list of Government publications. (Kanchō kankōbutsu sōgō mokuroku.) National Diet Library. Annual.

Japanese periodicals index: natural sciences. (Zasshi kiji sakuin: shizen kagaku-hen.) National Diet Library. Quarterly.

(All the above are printed in Japanese throughout.)

Lists of Periodicals

Annual list of current periodicals. (Chikuji kankōbutsu mokuroku.) National Diet Library.

Bibliographical list of Japanese learned journals. Higher Education and Science Bureau, Ministry of Education, 1957.

Directory of Japanese learned periodicals. Part 2: natural science. Part 3: applied science and fine arts. National Diet Library. Published by Tokyo Library Bureau, 1957, 1958.

(Also available is a one-volume edition containing both the above parts, plus parts 1 and 4 (Humanities and social sciences).)

List of scientific and technological Japanese periodicals for exchange. Japan Information Center of Science and Technology, 1959.

Union catalogue of periodicals in university libraries. (Gakujutsu zasshi sōgō mokuroku.) Higher Education and Science Bureau, Ministry of Education, 1954.

Bibliographies and Abstracts

Japan science review: medical sciences. Edited by Science Council of Japan and Ministry of Education. Published by Gihōdō, Tokyo.

Japan science review: mining and metallurgy. Edited by a Joint Committee of mining and metallurgical societies. Published by Mining and Metallurgical Institute of Japan, Tokyo.

Japan science review: mechanical and electrical engineering. Edited by Japan Society of Mechanical Engineers. Published by Kasai Co., Tokyo.

Japan science review: biological sciences. Edited by Japanese Association of Agricultural Science Societies. Published by Kasai Co., Tokyo.

Complete chemical abstracts of Japan. (Nihon kagaku sōran. In Japanese.) Nihon Kagaku Kenkyū-kai, Sendai.

Central medical review of Japan. (Igaku chūō zasshi. In Japanese.) Igaku Chūō Zasshi-sha, Tokyo.

Metallurgical abstracts. (Seitetsu gijutsu sōran. In Japanese.) Japan Iron and Steel Federation, Tokyo.

List of abstracting and bibliographical services in Japan. (Contained in: *Scientific and technical information services in Japan.* National Committee for Documentation, Science Council of Japan, Tokyo, 1958.)

Libraries

Survey of Japanese libraries. (Nihon toshokan sōran. In Japanese.) Science Council of Japan, Tokyo, 1954.

Libraries in Japan. 2nd edition. Japan Library Association, Tokyo, 1958.

Directory of research libraries. (Chōsa kikan toshokan sōran.) Special Libraries Association, Tokyo, 1956.

Scientific Societies, etc

Handbook of scientific societies in Japan. Japanese National Commission for Unesco, and Ministry of Education, 1954.

Handbook of learned societies in Japan: natural and applied sciences. Higher Education and Science Bureau, Ministry of Education, 1959.

List of science societies and associations in Japan. Association for Science Documents Information, 1957.

Science in General

Japan's administration for science and technology. Annual report of the Science and Technics Agency, 1959.

Directory of economic and industrial organizations in Japan. (Supplement to *Japanese industry,* annual report of the Foreign Capital Research Society, 1957.)

Scientific and technical information services in Japan. Science Council of Japan, Tokyo, 1958.

'Japanese documentation organizations and facilities'. Paper read by George S. Bonn at the annual conference of the Special Libraries Association, USA, 1959.

Directory of research scholars in Japanese universities, and their fields of research. (Daigaku kenkyūsha kenkyū daimoku sōran. In Japanese.) 2 vols. and index. Nihon Gakujutsu Shinkōkai, Tokyo, 1956–8.

Suppliers of Periodicals

Far Eastern Booksellers, 2–2 Kanda Jimbochō, Chiyoda–ku, Tokyo.
Japan Publications Trading Co. Ltd, Central P.O. Box 722, Tokyo.
Kinokuniya Co., Shinjuku, Tokyo.
Maruzen Co., Central P.O. Box 605, Tokyo.
Charles E. Tuttle Co., 15 Edogawa-chō, Bunkyō-ku, Tokyo.

Addresses of Organizations concerned with Scientific Documentation

Japan Information Center of Science and Technology. 15 Ichibanchō, Chiyoda–ku, Tokyo, Japan. (Central P.O. Box 1478, Tokyo.)

Ministry of Education, Higher Education and Science Bureau. Kasumigaseki, Tokyo.

National Diet Library. Akasaka, Minato-ku, Tokyo.

Science Council of Japan. Ueno Park, Tokyo.

Atomic Energy Commission of Japan. 2–2 Kasumigaseki, Chiyoda-ku, Tokyo.

Atomic Energy Research Institute; Atomic Industrial Forum. Shiba, Tamura-chō 1–1, Minato-ku, Tokyo.

Japan Medical Libraries Association. C/o Tokyo University Medical Library, Motofuji-chō, Bunkyō-ku, Tokyo.

Japan Pharmaceutical Library Association. C/o Tokyo University Pharmaceutical Library, Motofuji-chō, Bunkyō-ku, Tokyo.

Japanese Government Publications Service Centre. Kasumigaseki, Chiyoda-ku, Tokyo.

For the above addresses and for much useful information on scientific documentation in Japan, the author's thanks are due to Mr George S. Bonn, Chief of the Science and Technology Division, New York Public Library, who kindly supplied at short notice a copy of his paper mentioned above (*Japanese documentation organizations and facilities*).

DISCUSSION

The Chairman for the session was MR D. T. RICHNELL (University of London). In reply to questions Mr Gardner said that he had mentioned only two centres in London that dealt with Japanese material but he had no doubt that there were also a number of special libraries that did so. So far as he knew, the only extensive abstract cover in the West was made by the American *Chemical Abstracts*. He did not know to what extent Japanese material was dealt with in Russian abstract journals.

Most Japanese university publications were issued on an exchange basis only and the universities preferred this system, but often there were means of obtaining the material by purchase as well. The university journals were generally the best source of information on scientific research and were of a very high standard.

Problems of obtaining English translations of Japanese material were discussed and the services of the Japan Information Center for Science and Technology (JICST) were recommended. The quality of English was not generally considered good but it was readable and JICST was co-operative in answering further questions and gave a reasonably prompt service by airmail. It was stated that much Japanese material was published in English in the first instance.

The speaker pointed out that the *Directory of Japanese learned periodicals* was originally publised in four parts, parts one and four being published together last with a preface covering the whole work and with a supplement listing additional material. This preface had been reprinted in the complete volume containing parts one to four inclusive.

SELECTIONS FROM THE RECENT LITERATURE

Books and Pamphlets

AMERICAN LIBRARY ASSOCIATION *and* UNITED STATES. Library of Congress
Cataloging rules of the American Library Association and the Library of Congress: additions and changes, 1949–1958. Washington, Library of Congress, 1959. [5], 76 pp. 45*c*.

*ASSOCIATION OF BRITISH CHEMICAL MANUFACTURERS
British chemicals and their manufacturers . . . 1959. London, the Association, 1959. 207 pp.

*BRITISH plastics year book, 1959: a classified guide to the plastics industry. London, Iliffe, 1959. 644 pp. 42*s*.

BUSINESS computer symposium, Olympia, London, 1st–3rd December, 1958. London, Pitman. 1959. ix, 846 pp., diagrs. 75*s*.

CAHN, R. S.
An introduction to chemical nomenclature. London, Butterworth Scientific Publications, 1959. viii, 96 pp. 10*s*. 6*d*.

GEORGE, F. H.
Automation, cybernetics and society. London, Leonard Hill, 1959. [9] 283 pp., illus., diagrs. 35*s*.

*GREAT BRITAIN. Department of Scientific and Industrial Research
Scientific research in British universities, 1958–59. London, H.M.S.O., 1959. xii, 446 pp. 25*s*.

HALLEY, WILLIAM C.
Employee publications: theory and practice of communications in the modern organization. Philadelphia, New York, Chilton Co., 1959. xi, 139 pp., illus. $5.

HURD, JOYCE
Adhesives guide. Chislehurst, British Scientific Instrument Research Association, 1959. vii, 158 pp., bibliog. (B.S.I.R.A. Research Report M.39.) 20*s*.

*INTERNATIONAL LABOUR OFFICE
International directory of institutes engaged in study, research and other activities in the field of occupational safety and health. 2 v. Geneva, I.L.O., 1958. Various paging. *gr*.

THE LIBRARY as a community information center: papers presented at an Institute conducted by the University of Illinois Library School, September 29–October 2, 1957. Champaign, Illini Union Bookstore, 1959. vii, 175 pp. $2.

METZDORF, ROBERT F., *compiler*
The Tinker Library: a bibliographical catalogue of the books and manuscripts collected by Chauncey Brewster Tinker. New Haven, Yale University Library, 1959. xxvi, 530 pp., bibliog. $15.

MEVISSEN, WERNER
Büchereibau/Public library building; [ins Englische übertragen von Sybil Hamilton]. Essen, Verlag Ernst Meyer; New York, W. S. Heinman, 1958. 256 pp., illus., diags. $12.50.

*NORTHERN IRELAND. Ministry of Commerce
Who makes what in Northern Ireland: a directory of goods made in Northern Ireland . . . 4th ed. Belfast, H.M.S.O., 1959. viii, 172 pp. 2*s*. 6*d*.

PARADIS, ADRIAN A.
Librarians wanted: careers in library service. New York, David McKay Co., 1959. x, 276 pp. $3.50.

POWELL, LAWRENCE CLARK
A passion for books. London, Constable, 1959. 249 pp. 21*s*.

STEBBINS, KATHLEEN B.
Personnel administration in libraries. New York, Scarecrow Press; London, Bailey Bros. & Swinfen, 1958. 304 pp. $6; 54*s*.

TOTOK, WILHELM, *and* WEITZEL, ROLF
Handbuch der bibliographischen Nachschlagewerke. Zweite, stark erweiterte, vollig neu bearbeitete Auflage. Frankfurt am Main, V. Klostermann. 1959. xv, 335 pp.

TURKEVICH, JOHN, *and* TURKEVICH, LUDMILLA B.
Russian for the scientist. Princeton, London, D. Van Nostrand, 1959. x, 255 pp. $5.95; 45*s*.

ULMAN, JOSEPH N., *Jr*., *and* GOULD, JAY R.
Technical reporting. Revised ed. New York, Henry Holt, 1959. xviii, 382 pp., diagrs., bibliog. $5.

*UNITED NATIONS. Office of Public Information
United Nations publications, 1958. New York, U.N. Office of Public Information, 1959. 82 pp.

*UNITED STATES. Geological Survey
Bibliography of North American geology, 1956, by Ruth Reece King and others. Washington, U.S. Government Printing Office, 1959. [3], 554 pp. (Geological Survey Bulletin 1075.) $1.75.

WALFORD, A. J., *editor*
Guide to reference material. London, Library Association, 1959. viii, 543 pp. 80*s*. (60*s*. to members).

WEIDMAN, HUGH, *compiler*
The rapid fact finder: a desk book of universal knowledge. New York, Thomas Y. Crowell, 1958. xv, 495 pp. $4.95.

WILLIAMS, EDWIN E.
A serviceable reservoir: report of a survey of the United States Book Exchange. Washington, The United States Book Exchange Inc., 1959. 81 pp. *gr.*

WINSER, MARIAN MANLEY, *editor*
A handbook for library trustees; [edited] for the American Association of Library Trustees of the American Library Association. 2nd ed. New York, R. R. Bowker, 1959. x, 181 pp., bibliog. $5.

*YEAR book of agricultural co-operation, 1959; edited by the Horace Plunkett Foundation. Oxford, Blackwell, 1959. iv, 337 pp., bibliog. 30*s.*

Articles and Papers

BENTON, DOUGLAS C.
Libraries without committees. *Special Libraries*, vol. 50, no. 6, July–August 1959, pp. 239–41.

BJÖRKBOM, CARL
The history of the word documentation within the F.I.D. *Revue de la Documentation*, vol. 26, no. 3, August 1959, pp. 68–9.

BOND, W. H.
Manuscripts and the library. *Library Trends*, vol. 7, no. 4, April 1959, pp. 511–16.

BOWERS, FREDSON
The function of bibliography. *Library Trends*, vol. 7, no. 4, April 1959, pp. 497–510.

CARNOVSKY, LEON
Standards for special libraries: possibilities and limitations. *Library Quarterly*, vol. 29, no. 3, July 1959, pp. 168–73.

CHI CHANG
Libraries in China today. *Libri*, vol. 9, no. 2, 1959, pp. 105–10.

COATES, E. J.
The Dewey Decimal Classification, edition 16. *Library Association Record*, vol. 16, no. 8, August 1959, pp. 187–90.

DAY, FREDERICK
Book jackets and their treatment. *Book Design and Production*, vol. 2, no. 2, 1959, pp. 20–3.

DUYVIS, F. DANKER
Polyglot editions of U.D.C. *Revue de la Documentation*, vol. 26, no. 3, August 1959, pp. 73–4.

ELSNER, HERMANN A.
Geräte und Verfahren zur Erleichterung der Arbeit in Dokumentationsstellen und Bibliotheken. *Dokumentation Fachbibliothek Werksbücherei*, vol. 7, no. 3, July 1959, pp. 163–7.

Experience of a microfilm unit: a description of the benefits and limitations resulting from the setting up of a microfilm unit in a large public corporation. *Office Management*, vol. 13, nos. 7–8, July–August 1959, pp. 248–9.

FALKNER, NANCY G.
The acquisition, treatment and use of newspaper clippings: report on a survey. *New Zealand Libraries*, vol. 22, no. 5, July 1959, pp. 106–8.

FINK, DAN
International co-ordination and co-operation of documentation services; exemplified by building documentation. *Tidskrift för Dokumentation*, vol. 15, no. 4, 1959, pp. 37–48.

FOXON, DAVID
Modern aids to bibliographical research. *Library Trends*, vol. 7, no. 4, April 1959. pp. 574–81.

GREN, ERIK
Zur Frage der Methode der Bücherauswahl in den wissenschaftlichen Bibliotheken. *Libri*, vol. 9, no. 2, 1959, pp. 69–78.

HOUGHTON, WALTER E.
British periodicals of the Victorian age: bibliographies and indexes. *Library Trends*, vol. 7, no. 4, April 1959, pp. 554–65.

LEE, JACK
English carto-bibliography. *The Manchester Review*, vol. 8, Summer 1959, pp. 304–10.

MADDEN, MARGARET E.
Streamlined special library. *Library Journal*, vol. 84, no. 14, August 1959, pp. 2257–60.

MAYER, A. W. J.
The language problem in documentation. *Revue de la Documentation*, vol. 26, no. 3, August 1959, pp. 73–4.

OSUCHOWSKI, JERZY
Information par cartes de signalisation. *Revue de la Documentation*, vol. 26, no. 3, August 1959, pp. 70–2.

PREISHER, H., *and others*
Literatur—Aufbereitung und Verfahren zur maschinellen Dokumentation. *Nachrichten für Dokumentation*, vol. 10, no. 2, July 1959, pp. 70–4.

SLADEK, VERA
Literature of advertising. *The Library World*, vol. 51, no. 709, July 1959, pp. 12–14.

STOKES, ROY
The teaching of bibliography. *Library Trends*, vol. 7, no. 4, April 1959, pp. 582–91.

THOMAS, ROGER
Dr. William's Library. *Bulletin of the Association of British Theological and Philosophical Libraries*, no. 9, July 1959, pp. 7–9.

TIBBETTS, G. R.
The classification of Arabic books. *Library Quarterly*, vol. 29, no. 3, July 1959, pp. 174–98.

VAN DORP, A. C.
Dokumentatie met schaar en lijmpot. (Documentation with scissors and paste.) *Tijdschrift voor Efficiëntie en Documentatie*, vol. 29, no. 10, September 1959, pp. 452–4.

VERONA, EVA
Literary unit versus bibliographical unit. *Libri*, vol. 9, no. 2, 1959, pp. 79–104.

VERRY, H. R.
Microrecords. *Office Magazine*, vol. 6, no. 70, October 1959, pp. 834–7.

VETTIER, RENÉ
Training for rapid reading. *European Productivity*, no. 32, June 1959, pp. 74–80.

WERNER, ANTHONY
The preservation of archives. *Journal of the Society of Archivists*, vol. 1, no. 10, October 1959, pp. 282–8.

WESSELING, J. C. G.
Donker Duyvis en de documentatie. *Tijdschrift voor Efficiëntie en Documentatie*, vol. 29, no. 9, August 1959, pp. 412–14.

ZHIRKOV, L. I.
The limitations of machine translation. [Translated from *Voprosy yazykoznaniya*, 1956, (5), pp. 121–124]. *LLU Translations Bulletin*, July 1959, pp. 20–4.

All the above items may be borrowed from Aslib Library, except those marked with an asterisk. Most of these are available for consultation in the Library, apart from a few for which locations in other libraries can be given.

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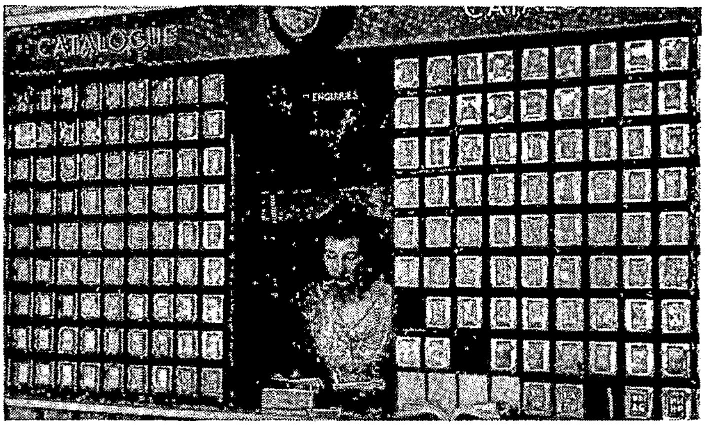

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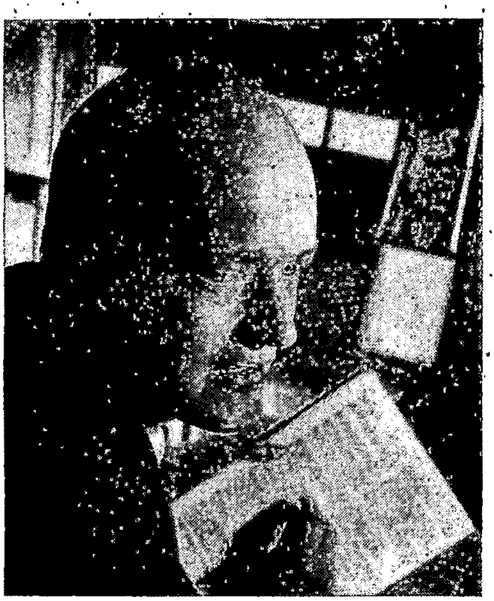

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